

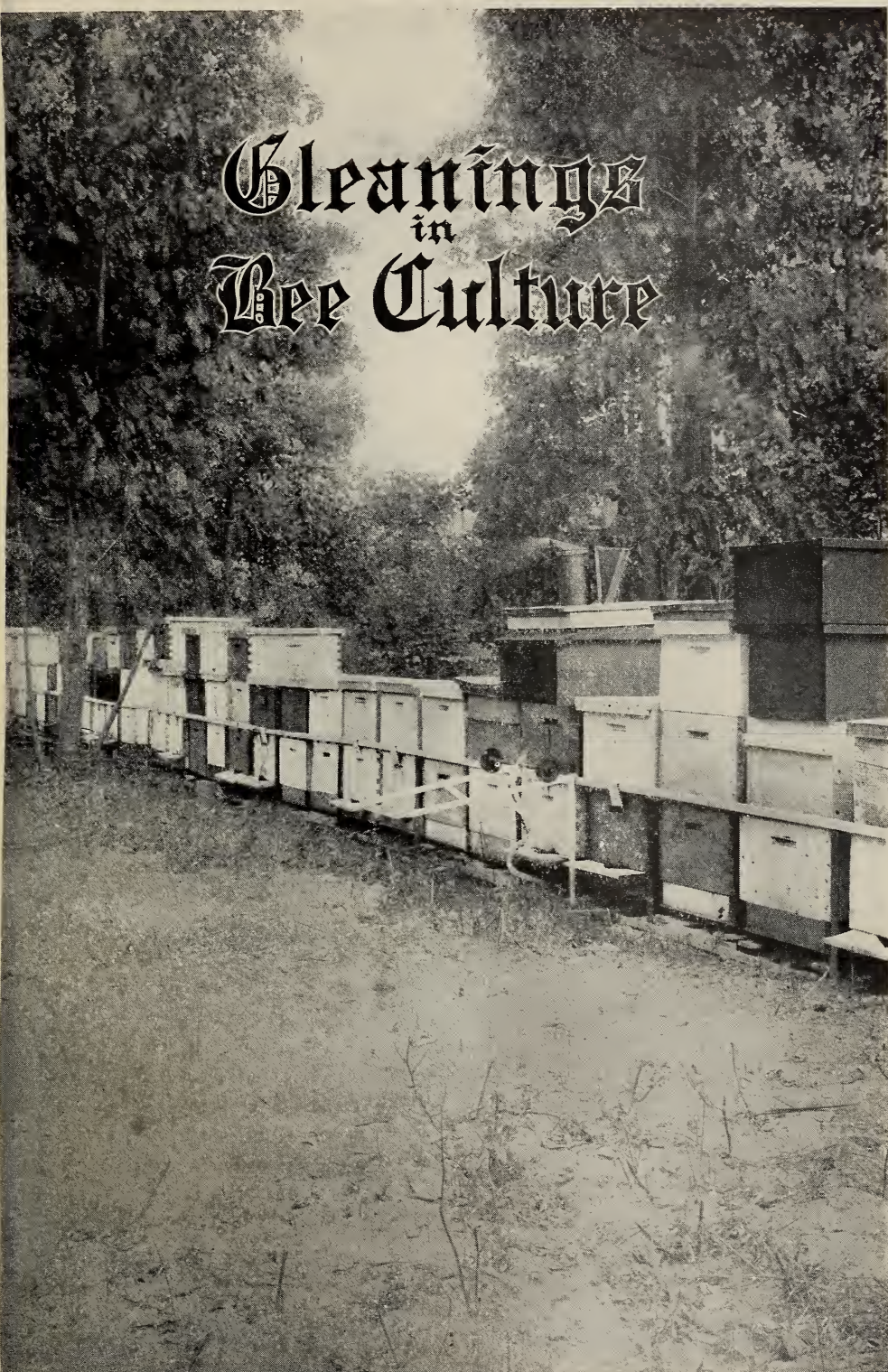
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MAR 19 1915

Cleanings in Bee Culture



Gleanings in Bee Culture

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EDITORIALS

Granulated Sugar Going up Again

SHORTLY after the opening of the Great War, sugar rose to nearly 9 cents. Since that time it sagged until it finally got down to \$5.25 per 100 lbs. The latest report, however, shows that it is again taking a sharp advance. This was rather to be expected. This will increase the outlet for cheap honey.

Our Cover Picture

OUR cover for this issue shows the apiary of Wm. Beucus, Cadott, Wis. As described in his article on another page the hives are arranged along a steel track and by means of a small car or truck the supers may be pushed along to the honey-house without much effort.

Doubtless the average man will feel that a wheelbarrow or two-wheeled cart that can carry eight or ten supers at a load would be a simpler proposition, taking every thing into consideration. Nevertheless, the plan is an ingenious one, and we are sure the readers of GLEANINGS would like to have a further report of it after it has been tried another season.

Steam-knife Boiler Burst

A BEEKEEPER using a ten-pound pail as a boiler for his steam uncapping-knife was severely burned on the arm by the bursting of the pail, due to the small hole, in the end of the knife for the escape of the steam, being stopped up. So far as we know, this is the only accident of the kind, yet possibly a word of caution might not be out of place.

In ordinary use the opening in the point of the knife will not become clogged up. Sometimes, however, if the knife is used to poke away the accumulation of cappings in the uncapping-can, or melter, there is some tendency for the hole to become filled up—especially so in case of the melter, as melted propolis or wax may be forced into the opening. It is better to use a stick or wooden paddle for this kind of work.

Before using the knife, blow through the tube to make sure that the opening in the end of the knife is clear. If you have forgotten to do this, and the tube is already attached to the boiler, you can easily ascertain whether the opening is clear by placing the point of the knife in your mouth and sucking the air out of the knife. The safest way, however, is to blow through the tube before attaching it to the boiler.

Beekeeping vs. Spraying in Bloom

THE Massachusetts Board of Agriculture will shortly issue a poster indicating the proper time for spraying fruit-trees and showing that, while trees are in bloom, it is not only ineffective as a prevention against fruit-pests, but directly dangerous in some cases, being liable to spoil the blossoms and to cause the death of bees, thereby greatly reducing the amount of fruit set. It is hoped to have ready shortly thereafter, for general distribution, a more extended circular or bulletin on this subject. The poster is intended for use in public places. Both poster and circular can be obtained as soon as issued, by addressing the Honorable Secretary of the State Board of Agriculture, 136 State House, Boston, Mass.

Snow, Plenty of it, this Winter, Presages Well for the Beekeeper in the Clover Districts

THIS winter so far is proving to be one of the old-fashioned kind, with a large amount of snow. In a recent trip through the East, we found that snow had fallen all over Virginia and the northern and eastern states, and is and has been very plentiful in Ohio. Much snow during the winter is a better guarantee for a good crop of clover honey than any other one thing. Experience shows that clover is more apt to fail after an open winter with alternate heaving and freezing of the soil, with little or no snow, than under the opposite conditions. One reason why northern New York,

Michigan, northern Illinois, Wisconsin, and Minnesota will produce clover honey when those parts of the country further south will not is because they have more snow. It has been shown that Ontario, Canada, will very often produce a crop of clover honey when the season will be almost an entire failure in Ohio. The former has snow when the latter does not. Well, we are having a large amount of snow this winter, and this is one of the most hopeful signs we can have that there will be a good crop of clover honey providing a drouth does not come on in late spring or early summer. Without such a drouth a clover crop is assured.

Another thing, snow assists materially in the matter of wintering bees when placed outdoors. See what J. L. Byer says on page 97 of our last issue.

The Massachusetts Convention

FARMERS' week at the Massachusetts Agricultural College at Amherst, March 15, 16, and 17, is to be featured by the Massachusetts Beekeepers' Convention and Apiary Inspectors' conference. A program and information may be secured by addressing the Extension Service of the Massachusetts Agricultural College.

Dr. Burton N. Gates will open the convention with an address on "Honey Products for Massachusetts," and on the following day will explain the Massachusetts wax-rendering service. Rev. D. D. Gorton, of West Springfield, Mass., will talk on swarm-control measures as practiced in Michigan. Geo. B. Howe, of Black River, N. Y., who has spent years in developing a race of bees, will explain methods and results. One of the most unique addresses will doubtless be that of C. C. Dowdey, entomologist from Uganda, East Africa, who will talk on beekeeping in that little-known region. Dr. H. P. Fernald, J. L. Byard, and G. H. Cale, all of the agricultural college, will give talks respectively on the following subjects: "Orchard Spraying Practices with Relation to Beekeeping;" "A Procedure for Late Fall Queen-mating;" "Experiences in a New York State Commercial Beeyard."

On Wednesday, March 17, the second convention of apiary inspectors in eastern United States will be called. The program will be open to all interested with a session for official inspectors, and speakers will be selected from the inspectors and authorities who may be in attendance. The subjects proposed comprise the methods and duties of inspectors, ways of combating European and American foul brood, and other bee diseases, transportation problems in relation

to the spread of these infections, and resistance of race, variety, or strains of bees in European foul-brood suppression.

Doubtless the subject of spraying in relation to beekeeping will come up for consideration since it is very closely associated with apiary-inspection work, and is quite a prominent point in the minds of beekeepers in eastern Massachusetts to-day.

The National Convention at Denver

THE National Beekeepers' Association convention in Denver was a more harmonious gathering than for some years past. The delegate sessions were handled with dispatch, and a better understanding among all the naturally diverse interests was evident.

Twenty affiliated organizations were represented, and the physical fact of separation by wide expanses of country and the resulting altered conditions made absolute harmony of interests impossible. There was, however, a spirit of compromise manifested, and it was apparent that things have been given a decided turn for more harmonious action for the future.

The publishing of an official organ and the carrying on of the business features has been apparently happily adjusted, and there seemed to be a general feeling that the result will inure to the satisfaction of all concerned.

Those of the National affiliated organizations that are more vitally interested in the business features will doubtless arrange to incorporate an auxiliary corporation with a capital stock that will assume the management and control of *The Beekeepers' Review*. While this organization will be separate and distinct from the National Beekeepers' Association proper, the relation between the two, it is believed, will be friendly and voluntary.

The Review will remain the official organ of the National Beekeepers' Association as before. Each organization, however, reserves the right to discontinue the official recognition of the other. But as both will be made up of National members to a great extent the relationship seems likely to be permanent.

The business sessions were entirely separate and distinct from the other sessions for the consideration of papers and general discussions. The former were held at earlier periods; and, while they were open to the public, only delegates had a vote.

President Gates showed that he was a good presiding officer in that he didn't hesitate to use the gavel when occasion required.

At the general session a good many matters of importance were discussed. In our next issue we hope to give a very brief synopsis of the most important, and possibly a picture of the convention.

On the evening of the 17th, in the auditorium of the hotel, the Colorado Honey-producers' Association gave a banquet to the members of the National Beekeepers' Association. Dr. E. F. Phillips, of the Department of Agriculture, Washington, D. C., acted as toastmaster, and a good one he was. There were over a hundred plates set, and the music and toasts were of the very highest order. There were frequent bursts of applause and laughter. The affair was a success in every way; and on behalf of the guests Dr. Phillips suitably expressed the thanks of the National to the Colorado Honey-producers' Association for the splendid entertainment.

The following officers were elected:

President, Dr. B. N. Gates; vice-president, Frank C. Pellett; secretary and treasurer, Wesley Foster; directors, E. D. Townsend, E. J. Baxter, J. H. Stoneman, E. G. Carr, Geo. W. Williams.

Caucasians and Other Black Races Adapted to the South on Account of their Early Breeding

MR. J. J. WILDER in the Feb. 1st issue, p. 69, speaks in the highest terms of the Caucasians, and he wonders why it is that the editor has had so much trouble with their bad swarming when neither he nor his customers have had any such difficulty. It is true Mr. Benton did speak of their swarming rather to excess, and we found them to be even worse than Carniolans. Possibly we had a bad strain of them; but although our Caucasians came from different sources, they all behaved alike.

The question whether they swarm to excess or not should not be given too much consideration. The *real question* after all is, "Are they *money-makers*?" We quite agree with Mr. Wilder that they are excellent for building up in the spring—better than Italians perhaps. The same may be said of Carniolans. It appears at this writing that the Virginia brown bees, or what might be called the old-fashioned black bees, are ahead of Italians in this respect at our Virginia apiaries.

This matter of early building up is certainly a valuable feature; and for beekeepers in the South, and perhaps in other localities, it is a factor worth considering.

During these war times it would be very difficult to import Caucasians, for the re-

gions where they are bred, in the extreme southwestern part of Asiatic Russia, are in the midst of the heaviest fighting at the present time. We have none in stock at our yards. In fact, we were compelled to discontinue using them in this locality on account of their swarming propensity which with us was intolerable.

We are coming to believe that the black strains, be they black bees, brown bees, Caucasians, Banats, or Carniolans, will breed up better than the pure yellow strains. The fact that blacks seem to be the *persistent* and *dominant* race would indicate that they must be a strong race capable of standing severe winters. The yellow strains of bees are essentially a tropical race, while the blacks—at least many of them—come from comparatively cold climates.

An exception should be made, however, in favor of the leather-colored strains of Italians that come from the mountainous regions of Switzerland where much the same climatic conditions prevail as are found in northern Italy. So far we have found these leather-colored bees come through as well in severe winters as the black; but we shall have to admit, when all is said, that they do not breed up quite as rapidly.

How the Bees are Wintering Out- doors in those Big Winter Cases

TO-DAY, Feb. 12, the weather has moderated enough so that the temperature has reached 50 degrees F. There has been no sunshine, and no bees flying out. Part of our bees outdoors were put in quadruple packing-cases of the Holtermann type, a part in the regular Root double-walled packed hives, and a few (only four) in single-walled hives containing the double telescope cover. The showing in quadruple packing-cases is excellent with this exception: In the case of a very few of the strong colonies the packing material had crowded the entrance cleats over in such a way as nearly to close the entrance but not quite. In front of these hives we found large numbers of dead bees, and the entrances practically closed with their dead carcasses. On opening up the hives we found the colonies overheated and excited for want of ventilation. Had we not arrived at just this time to clear the entrances they probably would have died in a day or two by worrying to get out, and they may succumb before spring, as it is. The entrances were partly closed on some of the weaker colonies; but as yet they seem to be all right. We enlarged them all to full size after clearing them out.

Examination of the colonies in the individual double-walled packed hives showed that there was unquestionably a greater mortality. In fact, about 30 per cent of the colonies were dead outright. On opening up the hives we found the clusters actually starved to death, with plenty of stores within two combs' distance, either on one or both sides, because the weather remained cold so continuously.

In the quadruple packing-cases we found no such conditions. Not a single colony was dead, and on the day of our examination the bees were spread over the combs as they would be in the summer. The ten or twelve inches of packing all around is undoubtedly warmer than two or three inches of packing.

There is another condition that may not be all in favor of these big quadruple cases: The bees were so warmly packed that the clusters apparently never really formed except in extreme zero weather. The danger is that this condition will lead to brood-rearing prematurely, sap the vitality of the bees, and possibly weaken or kill them by spring. The question is, then, "Is it possible to overdo this matter of packing?" There is a certain advantage in having a colony during winter in a nice compact cluster. In that condition there is less activity, less consumption of stores, and no brood-rearing. Such a colony, we know, will winter well. Now, then, will the colony that never clusters all winter, or seldom does so, do as well as one that is in a compact ball practically all winter? The sequel will show this spring.

We have examined the colonies in single-walled hives at our home yard. They were powerful colonies early in the fall, and are showing up nicely now. Indeed, their cluster formations are ideal. When we go from one of these hives into one of the colonies in quadruple packed cases we find the cluster not formed but scattered; but the bees under the glass covers seem to be perfectly healthy, and appear to be just about as they look in summer. One thing we know is there are a good many more bees in front of the single-walled hives than those that are packed. This fact is plainly noticeable. It is easy to see that there is a continuous decimation of the unpacked colonies; and if this continues long, the balls of bees will grow smaller and smaller, and finally die.

As previously related, we have sixty colonies packed in quadruple packing-cases at the Blakeslee yard. The colonies in diagonally opposite corners of the cases are covered with sheets of glass the full size of the top of the hive not sealed down. The other

two colonies in the same case, also diagonally opposite, are covered with wire-cloth screens, the same as are used in moving the bees in summer. Over this screen is placed a sheet of burlap, and over the whole about ten inches of planer-shavings.

It will be readily seen that we have a condition of semi-sealed covers in one pair of colonies, and full upward ventilation for the escape of moisture for the other pair, both in the same case. Over the colonies with upward ventilation we find moisture in the packing. Over the hives covered with glass there is no such moisture. The relative difference between the two sets of colonies is not great; but the difference, so far as we can determine, is in favor of the semi-sealed or glass covers. Of course there is no particular merit in glass other than it affords us observation without much disturbance, the same as through the wire cloth.

Our Mr. Rea says that when the weather is extremely cold he has observed repeatedly that the colonies in these cases having upward ventilation during and between the cold spells, with the mercury around zero, will form into compact clusters, while those under glass are nearer the top than the clusters that are less compact. It seems very clear to us that the semi-sealed cover makes a warmer housing for the bees. We shall give reports from now on till spring of the relative conditions of the bees in all the various packings.

N. B.—Saturday, Feb. 13, was warm and balmy. The bees flew as though it were spring. The colonies in the large packing-cases were examined, and found to be in excellent condition. There seems to have been no bad effects from the clogged entrances as mentioned above. A few colonies were opened, and we found the queen just beginning to lay a few eggs, evidently from the stimulus of the warm day and the consequent activity of flying. We did not find brood in all stages as we expected. It is very evident that they did no brood-rearing during the extremely cold weather, in spite of the fact that they were so warmly housed.

The cellar bees are becoming a little restless, and a few more of them are showing signs of dysentery. All those that were spotting the alighting-boards at the entrances of their hives were placed out on Saturday and given a good cleansing flight. We are now waiting for a warm day when they will all be hustled out and allowed to clean up.

Later.—That warm day came Saturday, Feb. 20, when all the bees were carried out for a good fly.

Dr. C. C. Miller

STRAY STRAWS

Marengo, Ill.



R. F. HOLTERMANN, p. 143, you say you never had combs melt down in hives with fence around. Years ago I had them melt down in dense shade with no fence, only close shrubbery; but my entrances at that time were $\frac{1}{2}$ inch or less.

ANSWERING a Wisconsin correspondent, I may say that my bees in the cellar are never entirely quiet. There is always at least a gentle murmur, something like a soft breeze through pine-trees. I doubt if it's possible or even desirable to have utter silence.

MR. EDITOR, are not you and T. H. Holmes talking about two different birds, p. 38? The bee-martin, or king-bird (*Tyrannus tyrannus*), as you say, is a bee-enemy; but the purple martin (*Progne subis*), the one that lives in martin-houses, is not, I think, an enemy.

GLAD to know, Mr. Editor, that you've taken on the grapefruit "habit," p. 144. I'm living with two "grapefruit fiends." They take it every morning "reglar," and other times when they feel like it. It's cheaper than medicine, and a heap easier to take. We don't spoil it with sugar, either.

"A CURIOUS thing about the alligator pear is that it is worthless if permitted to ripen upon the tree," but must be "laid away in a dark place to mature," p. 170. Not so curious either, seeing it's the rule with all pears, except Buffum and a very few others. Always pick pears fairly green, and ripen in the dark.

"HELLO, Poppleton! you've got the same old phiz, haven't you?" That's what I said when I opened up to the pictures, pp. 144-5. It is said, p. 146, that he has followed the Long-idea plan these many years "almost all alone." True, if you confine it to this country. But he has lots of company in Europe—good company too.

W. C. MOLLETT, p. 165, because you disturbed bees in winter and they outlived it, don't count too safely on it always. I've had them live after such disturbance, and I've had them die, with pretty clear proof that the disturbance killed them. A few pages earlier (p. 134) the editor says: "A broken cluster, then, in cold mid-winter is a very bad sign. It is evident that the bees are demoralized and the end is near." And disturbing the bees is likely to result in "a broken cluster."

J. L. BYER, p. 97, you have little fear of American foul brood, but dread European

foul brood. Just the opposite here, perhaps on the principle that we dread the unknown. At any rate, in 1913 I got the best average yield of my life, and in 1914 an average of 70 pounds when all about me was failure, and in both years European foul brood was in my apiary. If ever European foul brood makes you a visit, I prophesy you'll learn two things—that requeening with good Italian stock is not a remedy but a help, and that there are other remedies worth using.

GARDENER B. WILLIS thinks decoy hives must be set in a very conspicuous place, p. 80. With me I don't believe any place is better than right in or about the apiary. Last summer my assistant put a decoy hive up in an apple-tree in the most orthodox manner. It was let severely alone, while nearly every year one or more swarms from outside enter empty hives in the apiary. Hardly a day in summer but scouts may be seen at empty hives, no doubt from colonies in the apiary; but as we are constantly thwarting them they never get beyond the scout stage. Outside bees do.

THE long deadlock in the Illinois legislature since the first of the year still continues. There are four camps, the wets and the dries, in each of the two parties, and no candidate for speaker can get a majority of votes. The leaders of the two parties want to ignore the wet and dry question, and the leading wets and dries want to ignore party lines, and so they get nowhere. Latest prospects are that a bi-partisan combination may elect a wet speaker—possibly a good thing. The issue would then be squarely made, and it might bring state prohibition sooner than any other way. [We note from a late paper that this is just what took place.—ED.]

GLEANINGS is to be congratulated on the stand taken about advertisements for queens, p. 9. One thing needs to be said that budding queen-rearers don't always think about. A advertises that he can furnish certain queens at a certain time. B sends an order with the money. B waits past the time, but no queen. Then he writes. A replies that he's behind orders, and if B can't wait money will be returned. Then A thinks he's not at all to blame, and says he's done the best he could. But the delay and disappointment may be more than the value of the queen, and A is to blame for agreeing to do what he couldn't carry out. Honest advertising is coming to the fore, and it should be honest in every respect.

NOTES FROM CANADA

J. L. Byer, Markham, Ontario



J. E. Crane hints that it takes great care to make hard candy that will give perfect satisfaction, while A. C. Miller says, page 977, Dec. 15, "any lively youngster" is supposed to be able to do the trick.

How do you feel now, Mr. Crane?

Personally we had no trouble making "hard candy;" but the trouble was that it did not suit us, or, rather, the bees, after it was made.

When the National convention was held in Detroit a few years ago I had the pleasure of meeting and conversing for about half an hour with the late Mr. Bingham whose death was chronicled in GLEANINGS for Dec. 15. My first and last personal meeting with him has always been remembered with pleasure, as I was impressed with the fact that he was a real gentleman—one of nature's noblemen. Steadily we are losing our old landmarks of beekeeping; and since I have had the pleasure of attending conventions—not so many years either—it is rather sad to recall some of the names and faces of men we once learned to respect and in many cases really loved.

February 8.—Moderately cold. We are having fine winter weather, with no extremely cold snaps, for the past four weeks. There are mountains of snow in roads and other exposed places, while I should judge we have about 18 inches on the level. This looks good for the wintering of what little clover we have, as well as the winter-wheat crop—the latter, no doubt, more important at the present time than the clover, as the cry to the farmers during this awful war period is, "Produce more wheat." Bees have had no flight, and of course may go six or eight weeks yet before having a chance to cleanse themselves. Prospects are none too good for wintering, as no late flight, small clusters, and poor stores combined in some places do not make best conditions for the bees. A few colonies in my own yards show unmistakable signs of dysentery, which is bad here in Ontario for this time of the year.

Some time ago the editor rather jollied me for wondering why beekeepers in Ohio and other places in the same latitude have trouble sometimes in wintering their bees outdoors while here in Ontario, where we often have a period of four months or more when our bees never have a flight in the

majority of seasons, we have fair wintering. The main "jolly" came in because I referred to Ohio as being "warmer" than it is here. Of course I was told all about those damp cold winds off the lake, and the changeable weather, and the opinion was really given that bees have a better time up here than they have further south. Perhaps they have sometimes; but how about a season like this? As before stated, our bees have had no general flight after Nov. 1. Clusters are smaller than usual, and in many cases some inferior stores are in the hives. As a result, as already intimated, our bees need a flight badly, and there is just a bare chance that they will not get one for weeks yet. A friend not far from Medina, O., wrote me early in January that his bees had a number of good flights in November, and also had two or more splendid flights late in December. I have had no word since; but I suppose that, during the mild spell in January, the bees would fly freely again in that month. Now, won't the editor admit for once that he lives in a "warmer" climate than we do here in Ontario?

As to those big quadruple cases you are trying out, of course you will get good results—no question about that, as they are used by a number of our very best men in Ontario as well as in other places where the winter grows very cold. As a rough guess I would say that half of the bees wintered outside here in Ontario are thus housed, as men like Holtermann, Sibbald, Miller, and a number of other extensive beekeepers use the method exclusively. In the face of all this it may seem like presumption on my part to say that I do not like them, and much prefer the single-colony hive, permanently packed. We are told that, with four colonies together, the heat will be more conserved, and that the bees will winter better than in the single-colony packed hive. While it seems reasonable, yet in my experience this so-called advantage is simply a "talking-point" as an agent would say. After wintering dozens of colonies in single cases year after year in the same yard beside cases holding two and three colonies each, as I had at this place, I never could see a bit of difference in results. The large cases are so bulky that it is almost imperative to have a man with one to do any changing around; and as I am usually alone in the yard during spring and fall, the single hive, double-walled, is the one I want. And

yet I will have no quarrel with the fellow who wants to winter four (or twenty-four, for that matter) in the one case.

Candy-makers tell me that it is a necessity to have a candy-thermometer in order to be sure of having a uniform product one time with another; and in this connection I might say that, only a few days ago, we received 25 pounds of candy made specially for bee feed, from one of the large confectionary firms in Toronto. This can be bought for about 10 cts. per lb.; and if it is as good as I have been told it is, I would rather pay that price than make it myself. With J. E. Crane I think candy-feeding is more of a fad than any thing else, and I seldom have any need of it since good syrup answers all my purposes nicely when bees are short of natural stores.

On page 46, Jan. 15, old covers are mentioned as used for alighting-boards in front of those big cases shown on the cover page. I'll tell you something better than that, at least for our locality, where snow and ice pile around the winter cases during winter. Have no board in front at all, and leave a perfectly straight hive-front right down to the ground. With a sloping board up to entrance, snow and ice, particularly the latter, will often be likely to give trouble. and I find the straight front very much preferable. Of course the hive-stand fills in space directly under the front of the cases, so that there is no danger but that chilled bees can crawl up just as well as they could with a regular alighting-board.

F. M. Baldwin asks on page 67, Jan. 15, if any one has had experience in introducing queens by first daubing them with honey and then placing them right with the bees. Like many other new(?) ideas this one is as "old as the hills," as they say. I remember seeing my grandfather do this when I was but a wee kiddie. I have used the plan once in a while myself, generally when coming across a queenless colony at an outyard, and when I had a queen to introduce and was in a hurry. As nearly as I can remember correctly I have an idea that as good results were obtained on the average as with any other plan; but it always seemed a rather mussy way in which to treat a nice queen. After all, it might be as good as any way yet given, and no one can say but that the plan is easy. There is no danger of the beekeeper not following directions implicitly, and thinking he knows better than the originator.

The push-in-the-comb-cage method of introducing queens, page 922, Dec. 1st, is as "old as the hills," but nevertheless one of the surest plans ever given to the public. My grandfather used the plan at least forty years ago—probably longer, and some of the original wire cages are still to be found. He made the cages larger than those commonly used, many of them being from four to six inches square. We always aimed to squeeze in the sides of the cage so that honey and hatching brood would be covered. In a day or two scores of young bees would be hatched and free with the queen; and I have often found every available empty cell filled with eggs before the queen was allowed to run at large. But, good as the plan is, we rarely use it now unless we wish to be very careful about a particular queen. Why? Simply because of quite a lot of work; and I am afraid that this feature, coupled with some other objections, will cause the plan to be rejected by most amateurs; even if it is recommended, instead of those methods of introduction now in vogue. The queen must be taken out of the cage. Most beginners will dread that operation to start with. Even when working in a closed room, which is imperative, now and then a queen will get away from the cage to the window, even if she does not happen to get behind some furniture. This means catching the queen, and this operation is again dreaded by very many, as, in their eagerness not to hurt her, they are all the more likely to do so owing to nervousness. Then the comb of brood and honey must be taken from the colony. Many amateurs would dread that operation too. The queen must be placed on one side of the comb alone, and then the cage must be placed over her, the sides of the cage being pressed into the comb right to the septum if one wishes to avoid having the bees liberate the queen too soon. In pressing the comb in I have known it to be done so forcibly that the cage would "press" the queen to death, especially if the comb used was a very old one and tough with many cocoons.

Assuming that all the foregoing difficulties have been overcome effectively, in three or four days it will be necessary to examine the comb; and if the queen is not already released, punch a hole from the opposite side of the comb or lift the edge of the cage. All these details are given to back up my contention that the method will never be accepted by the majority of those who buy queens when other plans, although not as uniformly successful, are fairly reliable and much more easy to practice.

BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.



The condition of the sages is much better than I had hoped for.

Prof. Cook at our state convention said he had no doubt that Adam and Eve had bees in the garden of Eden. Mr. George Emerson asked what material Eve made the bee-veils of.

While we are having raisin, orange, and grape days, each of which is designated as a day for every one to eat the certain one of these commodities in question, why not include honey?

A gentleman from New York city was transferred to our local postoffice force. One day the subject of honey came up, and the other employees were surprised to hear him say he had never tasted it.

There is nothing that will describe the weather conditions of the present better than to say that California is now being drenched. The rainfall to date, Feb. 13, is above normal, with an average of nearly 15 inches.

Do not try to save fertile-worker colonies. Unite them with other colonies that need the bees. This may be done quickly and safely by setting them on top of other colonies with a sheet of newspaper between the two. The paper will be removed by the bees, and perfect harmony prevail.

A colony containing a large amount of bees at this time in the season can often be used to equalize the force of a less populous colony by changing it to the latter's hive-stand. This plan should not be used so late in the season that it may interfere with the working force of the stronger colony.

J. L. Byer complains of his bees not having a flight since in October. It is my opinion that our California bees would be a little more numerous during the winter if they were confined more closely to the hive. The loss by chill would be greatly reduced. To-day, Jan. 23, the temperature was just at a point that encouraged the bees to leave the hive in quest of stores, which are available to some extent; but many were so chilled that they were hardly able to complete the return flight. In fact, on the

cement walk over which a part of the flight was directed I found several cold and stiff, unable to reach the hive.

If not already done, the queen-excluders should be removed to allow the queen all of the room in both chambers for laying. Replace them ten days to two weeks before you expect to extract, care being used to avoid shutting the queen down in a honey-bound brood-chamber. She should have all available room that ten frames will give, for laying. If honey is coming in freely, and the side combs contain much honey, place them in the upper story and insert full sheets of foundation in their place.

As to whether or not it is profitable to save bees from bee-trees, Mr. Elias Fox takes occasion to say that my ideas on this subject were guesswork. Badly mistaken, Bro. Fox. I should not be surprised if I have not cut as many bee-trees in the East as yourself. Besides I have dug them out of rocks, taken them out of houses, trees, transformer boxes, chimneys, and from under houses in this state. Yet, counting every thing, I believe I am the loser. It is an easy matter to make a success of cutting from trees if you are going to take them home as you describe, and put them on frames of sealed honey. There is a stubborn idea in my head, however, that I could cut out four or five nuclei from my own hives, with as good results, while you were cutting your tree.

Mr. L. W. Brown, page 126, Feb. 1, says: "Out in California is a beekeeper who has kept bees (as well as moths) for over thirty years in the same yard." Just one, Mr. Brown? Well, out in California are some of the most progressive beekeepers in the world who do not take a back seat for anybody. California is a state filled with beekeepers with large apiaries, and richer in experience, on the average, than those of any other part of the United States. California has less moth per colony than most of the eastern states, for the reason that beekeeping here is a specialty, and not a side issue that receives attention after the rest of the farmwork is attended to. We have some dirty, sloppy, careless beekeepers the same as may be found anywhere, but they are the kind that come and go rapidly. The beekeepers worthy of the name are here to stay, and are not harboring moths.

CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



DIFFERENT FEATURES TO BREED FOR

"I have been thinking about breeding bees for certain purposes. As the flora of our country is not the same everywhere, should not each locality breed strains of bees which are not only adapted to the climate, but also adapted to the flora of that section?"

This is something I think I have never heard spoken of or written about. I know that one strain of strawberry-plants will do well in a certain locality, yet be of little value in another, and that there are very few which are adapted to all sections of North America. Therefore the wise small-fruit raiser will test the different varieties till he finds those which thrive to perfection in his immediate vicinity. I am also aware that the Italian bees will prove successful in times of certain bloom which the blacks consider hardly worth noticing, while on both clover and basswood bloom there seems little difference in favor of either. Quite a few seem to think that the blacks are superior in buckwheat bloom; but after a careful watching, covering a long term of years, I fail to see any material difference. Then there seems to be a difference in different colonies in the same locality as to a successful outcome at the end of the season; but the question is, whether a strain of bees reared and bred for central New York, to as near perfection as possible, would prove less perfect in their nectar gathering in Iowa or California. This is something regarding which beekeepers have rarely if ever expressed an opinion. Is there a reader who can give us any light?

"If we are to develop hardiness in our bees, can we of the North afford to use imported or southern-bred queens?"

This has often been asked me by correspondents. I do not think I have ever written on this for publication, as I did not wish to say any thing that might injure our southern queen-breeders or throw "cold water" on those who consider imported stock superior to queens we already have in this country. It is one of the laws of nature that, the further north or south of the equator any animal or plant can live, the tougher and harder it becomes. Bees are no exception to this rule. Years ago, before I practiced cellar wintering, I found that both imported stock and that reared in the extreme southern portion of the United

States would be affected by dysentery two to four weeks sooner, in a long cold winter, than would that reared in our rigorous climate for a term of years. But when it came to cellar wintering (my custom for the past thirty years) I could see little difference.

"Which is better to breed from—thoroughbred or crossbred stock? Is not the thoroughbred liable to be bred 'in-and-in' till the strain weakens?"

When bees are crossbred to improve the stock, there is no way of knowing if the crosses are pure or not; and new blood could be infused into them without its being known and to their injury. This objection is insurmountable unless some way can be found to fertilize the queens other than the natural way. By cross-breeding we are just as likely to get the bad qualities of both breeds in the cross as to get the good ones. If I am right, the general improvements in our bees which so far have been made have been attained by taking one variety and improving it by selection, without any cross-breeding whatever. In this way different strains of honeybees can be produced with one or more features. Thus one strain could be produced especially to secure extracted honey—mere honey-gathering its particular feature. Another strain could be produced that would also have comb-building as a special feature. This would be the one for the comb-honey producer, especially if white capping of combs could be added. Breeders have worked along this line so that there are Italian colonies now in the United States that cap their section honey very nearly if not quite as white as do black bees. Such breeding does not seem to injure them.

"How about beauty? I admire beauty; but would not wish it to the detriment of other qualities."

Although beauty is not one of the most important qualities of a bee, I have noted during the past quarter of a century that nineteen out of every twenty persons, no matter whether they prefer the dark Italians or not, will stop before a colony of golden Italian bees and express their pleasure. Beauty is an important factor in human enjoyment. This world was created in beauty. We see the firmament arched with the rainbow of beauty, and at night the heavens are decked with "starry gems" of beauty. The beekeeper who appreciates beauty in his apiary is generally the successful apiarist.

GENERAL CORRESPONDENCE

BEEKEEPING ON THE APALACHICOLA RIVER, FLORIDA; HOME-MADE HIVES

BY E. R. ROOT

Last spring, while I was visiting our boys who were managing our bees at Randlett's Landing, I took a number of excursions up and down the river with Mr. Marchant. On one of these trips I visited Mr. R. L. Tucker, who formerly owned Randlett's Landing, where he kept bees for several years. He has since carried on the beekeeping further down the river. The weather was cold the day of my visit in March, and a good warm fire in his workshop, even if it was in Florida, seemed very comfortable. I did not have with me my camera at that time or I should have been very glad to give you another picture of him in his present location. I showed his apiary at Randlett's in GLEANINGS, pages 81 and 82 for the year 1912. It is sufficient at this time to say he is one of the old-timers. He has studied carefully all local conditions, and he has apparently made a success of the business.

On another one of these excursions up the river I had the pleasure of meeting an Ohio beekeeper, a retired business man of Toledo, who spends his winters in Florida keeping bees to the extent of several hundred colonies. When Mr. Marchant and I arrived there he was out in his "workshop," which was outdoors, where he was busy making hives with the aid of

a single-cylinder gasoline-engine which he had taken from an old Cadillac automobile. Lumber is cheap down in this country; and while it is not equal to white pine for hives, nor as light to handle when made up, it does very well. Fig. 1 will show his rig.

In this connection it is proper to remark that an old discarded automobile will often furnish a fairly good engine, even though the running-gear is completely worn out or out of date. Some of these old single-cylinder motors, such as are found in the Cadillac and the old Olds, make very good stationary

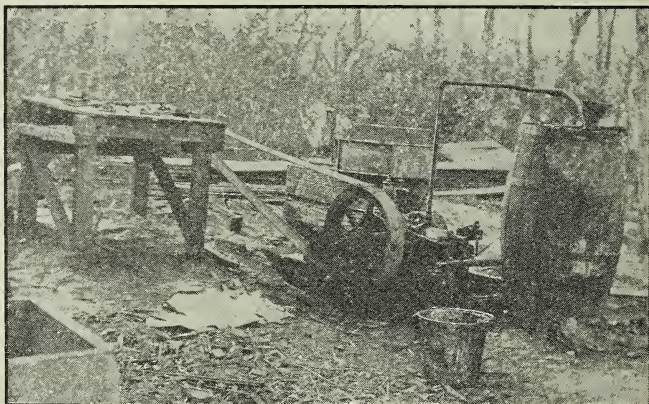


FIG. 1.—F. W. Summerfield's beehive shop driven with an old single-cylinder automobile engine.

engines; at least Mr. Summerfield, who is of a mechanical turn of mind, was getting good service out of his old Cadillac. When one of these engines is detached from the automobile frame and radiator a substitute of course must be used for cooling the water. A common barrel with proper connections, as shown in the illustration, does the work very nicely.

Our friend is rather fond of machinery and boats. He has a regular gasoline-cruiser which he brought from Toledo in which is mounted an up-to-date four-cylinder four-cycle automobile engine. When he went to Florida the first time he put his cruiser, Fig. 2, on a big flat car, and he and his family rode in it all the way to the nearest point where they could get into the river. Then the boat and all was put into the water, when he and his family went the rest of the

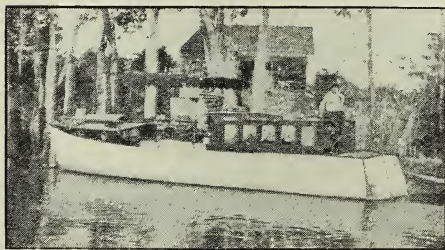


FIG. 2.—Summerfield's gasoline-cruiser in which he and his family went from Toledo by rail and water to Apalachicola, Fla.



FIG. 3.—F. W. Summerfield's apiary on the Apalachicola River about twenty miles from Apalachicola.

way on their own power. They cruised here and there, and finally selected a location on the Apalachicola River about 20 miles from Apalachicola. I do not know, but I rather imagine that traveling in a cruiser by rail is not so bad as it might seem; and the expense, Mr. Summerfield said, was not so very great either. This cruiser was equipped with all modern conveniences, so that he and his family could ride, eat, and sleep in it either by rail or by water. This is a great scheme. The wonder is that more beekeepers do not travel that way.

If one can afford it, a cruiser on a good river with plenty of bee range means pleas-

ure and profit. He can establish outyards, and go and see them from time to time. He can haul the bees from one point to another, eat and sleep on the cruiser with his family, and if he does not finish up his day's work at any particular yard he does not have to hustle off to get back.

I have had a little of cruiser life myself (see last issue), and I must say I like it. Some day when I have more time at my disposal than I do now, and I can afford it, I propose to own a cruiser and operate it in Florida. I say, *when I can afford it*. A good cruiser runs up into money—anywhere from \$2000 to \$50,000. For a very



FIG. 4.—F. W. Summerfield, his wife and daughter, and two helpers.

good reason I could not, if I would, go very much beyond the lower figure. But, to return.

Fig. 3 shows Mr. Summerfield's yard of bees where he had last spring at least some 300 or 400 colonies. As is the custom in that part of the country the hives are up on platforms or hive-stands. The principal reason for this is to get away from the ants that are very destructive there. In addition to this the ground is cleared off even and smooth, for ants are particularly fond of getting under some old boards, old stumps—anywhere that will furnish a safe harbor.

You will notice how nice Mr. Summerfield keeps his yard. He and his family and helpers, Fig. 4, seem to thrive in this South-land country. He himself is the second man from the right. Mrs. Summerfield is at his left, and his daughter Hester is next to her. The two other men are Sidney Faust and Guy Gallop; but which is which, my notes fail to reveal.

Mr. Summerfield said to me that I might be disappointed in the locality. He had come down there for his health and pleasure as well as for business. While this is a wonderful bee country it has its serious drawbacks. When I met him at our field day at Medina last summer (for he comes back with his family every summer) he asked me how our Apalachicola venture paid out. I had to admit that it cost us more than we got back; but that the experience was worth all it cost.

"I thought so," said he, with a significant smile. "The only way a man can make bees pay in that part of the country is to go

himself and do a large part of the work. To hire it done as you did is quite another proposition."

He succeeded fairly well, and secured a fair crop of honey, and came back with a carload of *two-story* colonies. Our boys thought when he started north this would spell disaster, as it did not seem possible to ship such big colonies so far, but Mr. Summerfield assured me at our field-day meet he got through with very little loss.

In regard to the matter of increase, he differed with Mr. Marchant in regard to the best way of making it. Instead of putting on upper stories and forcing the bees *above* for increase, he puts the extra story *beneath*. This is his argument:

SUMMERFIELD'S PLAN OF INCREASE.

Heat rises. If a story of empty combs is put beneath instead of on top, the heat will stay with the brood *already started*. As the strength of the colony increases, the heat will work downward. *The queen will follow no faster than the bees can take care of her brood.* On the other hand, if empty combs are placed on top the heat will desert the brood in the lower story, and rise into the upper. This will compel the field forces to stay at home to help hold the heat around the brood in the lower story. Mr. Marchant admitted that this might be true, but thought that with intelligent manipulation more rapid increase could be made on the other plan. Apparently both men succeeded in making fairly good increase. The Summerfield plan might be the safer one for the average person to follow, but perhaps the increase might not be as great.

WINTERING SUCCESSFULLY ON ASTER HONEY

BY HENRY PYATT

In my location asters are the main fall crop, with goldenrod supplementing. My bees stored some of the whitest-capped and nicest-looking honey of this variety one would want to see last fall. One hive filled a 28-section super in ten days besides the brood-nest. Every cell and the sections were so they could be graded fancy. I depend on it for wintering almost entirely.

Last winter my loss per hive, by count, amounted to almost 200 bees. This winter it will be somewhat heavier because they have had only one little flight since Dec. 1.

I winter in double walls with about 1½ inches of ground cork in between; contract the entrance to ¾ x 4 inches; take out two or three frames from a ten-frame or one or

two from an eight-frame, and spread the middle frames apart, or those where the cluster is, so that there can be two or three thicknesses of bees between the two center frames. I leave the rest of the hive open—that is, I don't fill up any inside space with packing. The frames fill the rest. Then a thin super cover sealed but with a place for a Porter escape is tacked over with wire cloth. Lastly I use a burlap bottom tray with four inches of ground cork. This ground cork is ideal. It holds the warmth of the cluster, and yet lets all moisture escape.

I have opened hives when the temperature was about 30 degrees, and found the bees spread over five frames. Except in extreme

weather they are at the bottom of the hive where they should be.

My hives are very seldom moldy or wet in winter, and only occasionally will a little water trickle down inside. A telescope cover fits down over all. Two gable holes one inch in diameter have been bored in for ventilation. My idea is that a slow upward ventilation to draw off any moisture is what is wanted without creating a draft, and yet something that will hold the heat of the cluster.

I am right in the heart of Pittsburg, but in the residential section, where every vacant lot and hillside has its quota of sweet clover, aster, and goldenrod. Besides there are many basswoods and linden trees. Then three miles in two directions will get the bees forage in the hilly countryside. I

never traced any, but imagine they make some long trips.

From four hives last year I got 75 lbs. of comb honey, and 120 lbs. in shallow frames. Besides, I had two swarms, and started five nuclei of one to three frames each, which I sold. I have never had any disease but once, and I am not sure about that. I soon got rid of the hive that had it.

I have several friends, young and old, that have bees here that they got from me. I try to interest them in up-to-date beekeeping. I even gave some to two parties because they were enthusiastic boys, and wanted something to do. Now they can handle the bees well.

If you have as good success wintering on aster as I have had you need not worry.

Pittsburg, Pa.

A WINTER IN DR. MILLER'S BEE-CELLAR

BY C. C. MILLER

An intended visit to Washington, D. C., a year ago last fall, made me want to cellar the bees as soon as it would do, so they were taken in Nov. 8, a little snow being on the hives, but no attention was paid to that. In the evening I went down cellar to see how quiet or noisy the bees were, and was amazed to find one hive lying on its side, without cover or bottom-board, and the frames partly out of the hive. The whole row from which it fell was like "a bowing wall," several piles just ready to topple over. I summoned aid, and we lifted down perhaps 25 or 30 hives, and returned them in proper order. Incidentally we got one of the worst stings of our lives. Evidently the bit of snow melting on the covers had made a toboggan.

Moral.—People who use zinc covers should sweep off the snow before taking in cellar.

The family started for Washington Nov. 11, leaving in the house a cousin and his daughter, thoroughly trustworthy, but inexperienced with bees. The bees did probably as well as if we had been at home; but the weather was unprecedentedly warm, and it would no doubt have been better if they had been taken in a month or more later.

On reaching home, Dec. 19, I went down cellar with some anxiety as to what I might find, but found nothing alarming. The bees may have had a pretty warm time of it, *but they had had good air.*

The thermometer in the cellar was a rickety old affair, and I got a new one, a Taylor,

guaranteed. Since its installment I am suspicious that the old one had reported the cellar warmer than it really was. At any rate the cellar seemed cooler with the new one. Following is a record for several days in the month of January, temperature being taken on the morning of each day. The first column gives the day of the month. The outside cellar-door is a double trap-door, and the second column shows how many inches high the one leaf was raised. Of course the "0" means that the door was closed. The third column gives the outdoor temperature, and the fourth the temperature in the cellar.

Day	Door	Temperature outdoors	Temperature in cellar
January 12....	2	1	45
January 13....	6	12	46
January 14....	0	25	43
January 15....	30	29	47
January 16....	30	33	46
January 17....	27	30	47
January 22....	6	8	42
January 29....	36	31	53
January 30....	6	16	46

Some of those figures do not appear very consistent. Jan. 12, with the door open 2 inches, and only 1 above zero outdoors, it was 45 in cellar. Jan. 14, with the temperature outside 24 degrees warmer and the door shut, one might expect it several degrees warmer in cellar; but instead of that it was 2 degrees colder. To make the table complete, or, rather, more nearly complete, there should be another column giving the velocity of the wind. Jan. 14, the closed door and the warmer weather outside were more than counterbalanced by a strong wind.



Hives taken from the cellar, and placed on the summer stands.

There was another disturbing factor, the furnace. It was in the outside room, into which the outside door entered, the bee-room adjoining, the door between the two rooms being open practically all the time. It will be easily understood that the hotter the furnace the warmer the bee-room. Really that is as it should be, for the colder the weather the more need of heat in the furnace-room to keep the bee-room from being too cold.

With February came colder weather, going one day down to 14 below, although that is not so very cold for this locality.

Feb. 18 I swept up the dead bees for the first time, after the bees had been in 102 days. I think I never let them go so long before, and do not commend it as a practice. The bees swept up weighed 12 pounds and $9\frac{1}{2}$ ounces. I had brought from Washington, the gift of my son, a superb pair of scales, so delicate as to weigh a milligram, or a thirty-thousandth of an ounce. I took 15 dead bees, and they weighed 620 milligrams. According to that there were about 138,000 bees swept up, making a mortality of about 1366 per colony.

I am sorry to say I do not put entire reliance on those figures. According to them there should be about 10,000 bees in a pound, while the A B C and X Y Z tells us there are 4500. It should be explained that the bees swept up were not entire bees, but merely the remains of what the mice had been banqueting upon for more than three months. That would still leave the figures reliable provided the remains were uniform.

Unfortunately they were not. Most of them, to be sure, were. The heads were eaten off and the insides scooped out. But there were a few with scarcely any thing but the wings left, and of course a very few not yet touched by the mice. Added to that was the fact that the bees were not all swept up clean, for some would be under and between the piles. I suspect that the 15 I weighed were heavier than the average; but if I might be allowed to guess I should say that a mortality of 1500 per colony would be nearer the truth.

While sweeping up the bees it was by no means a pleasant surprise to notice that No. 78 had starved to death. I say "notice." for you don't need to examine carefully in such a case, but can tell by the first glance at the bees outside. It would be hard to describe in words, but is the easiest kind of a thing to recognize by the peculiar appearance of the dead bees at and about the entrance when a colony dies of starvation in a cellar. No. 78 was one of the biggest and best colonies; and when a colony has filled a big lot of sections it is generally needless to examine whether it has looked out for itself. But No. 78 had stored in extracting-combs, and I suppose I've got to learn that such a colony is not as safe for winter as one that works on sections.

TROUBLE FROM WARM WEATHER.

March 14 came a very warm day. At 1 P. M. it was 56 degrees outdoors and 53 in the cellar. At 3 P. M. it was 60 outdoors

and 54 in the cellar. The bees were a little noisy, and there was a slightly disagreeable smell in the cellar. The cellar door was kept closed; for if it had been left open the bees would have flown out of the cellar. At times it is all right to keep the door open, even if a few bees do fly out, for keeping the door shut makes the air foul, and more bees may fly out and fall on the cellar bottom than would fly out with the door open. But when it comes as warm as 60 outdoors, and that toward the end of their winter's confinement, opening a door which admits the light is likely to invite to a general exodus.

I don't think the uneasiness of the bees was because they were too warm, but because the air was foul. Bees ventilate when the air is foul in the hive; but in this case there was no ventilation of the cellar, and so the air of the cellar outside the hives had become more or less vitiated, and ventilating the hive could not have its usual effect. Ordinarily the air outside is colder than it is in the cellar, and so heavier. The heavier outside air forces itself into the cellar through all cracks and openings, much as water would force its way in if the cellar were surrounded by water; the warmer impure air is forced upward and outward, and thus a supply of fresh air is forced into the cellar. But when the air outside becomes warmer and lighter than the air in the cellar, the cold air quietly remains in the cellar, no matter how foul it becomes. If the door should be left open there would be some change, in spite of the rarer air outside. It would be a good thing if I had some arrangement by which a large opening, or large openings, could be made without admitting light. Still better it would be if a stream of fresh air could be fanned into the cellar, as occurs in some city buildings. I have no such arrangement. I can only grin and bear it till night comes.

With 60 degrees outdoors, there was some temptation to think the bees had better be taken out. But there was the possibility that a cold spell might come, and then the bees would be better inside. The cold spell did come, and for several mornings in succession the thermometer showed 16 to 18 above zero. Then the thermometer began to climb again. March 24, in the evening, I opened the door and window wide. It blew hard all night, and rained, and with so much wind I felt easy that the cellar would be well ventilated and the bees quiet. In fact, I forgot all about them till 8:30 next morning. Then I went down to see how nice and

quiet they were with the full light shining in upon them. I was fooled. They were any thing but quiet, and were having a high old time sailing to the window. I hastened to shut out the light, with a feeling that I didn't know much about keeping bees. It was 52 degrees outdoors, and 54 in the cellar. By 10 A. M. it was 54 out and 56 in. All I could do was to wait with what patience I might until dark, when I opened up wide, and by morning they had settled down, and after that the weather was cooler.

WINTER MORTALITY.

As already mentioned, the dead bees were swept up Feb. 18. On five other dates they were swept up, and also after the bees had been carried out, April 13. In the following table the first column shows during how many days the dead bees had accumulated; the second column shows how many pounds had accumulated during that number of days; and the third column shows the daily accumulation.

	Days	Pounds	Daily
Feb. 18.....	102	12.59	1.234
March 17.....	27	27.5	1.02
March 24.....	7	6.75	.964
March 30.....	6	14.75	2.458
April 3.....	4	5.5	1.375
April 13.....	10	28.75	2.875

It will be noticed that the mortality in the first 102 of the 156 days was only one-eighth as much per day as at any time after. That is, perhaps, about the usual thing. I don't know how to account for the discrepancy in figures afterward, especially March 30 being nearly twice as much as April 3 as to daily loss.

MICE IN CELLAR.

Some one may ask why so many mice were allowed in the cellar. There were not many. They were constantly trapped; and yet with the cellar door open there was constantly free entrance from outside. There were not enough so that they did any harm to the combs or bees in the hive, the dead bees on the floor occupying their attention.

BEES STRONG IN SPRING.

Having been brought in so early, and having been in cellar so long without the usual care on my part, I was a little anxious as to what the condition of the bees might be in spring. But they came out bright and strong. April 13 Philo Woodruff and Warren Smith began carrying them out in the morning, with the thermometer at 32 degrees. In 2½ hours the bees were on their summer stands; the mercury went up to 62; they had a glorious flight, and all anxiety about the winter of 1913-4 was over.

Marengo, Ill.



Annual conference of the Victorian Apiarists' Association held at the Town Hall, Stowell.

A GLIMPSE OF A VICTORIAN APIARISTS' CONFERENCE

BY E. B. MACPHERSON

As I was a delegate to the fifteenth annual conference of the Victorian Apiarists' Association held at Stowell, July 21, 22, and 23, 1914, I had to travel by train all day and all night to get there; but I was well repaid, if it was only to meet the many beekeepers I made friends with aside from the valuable points of an apiarist's trade one gleans from such meetings.

On the third day of the conference we all drove out in drags and motors to J. C. Liddle's Myrtle Bank apiary four miles from

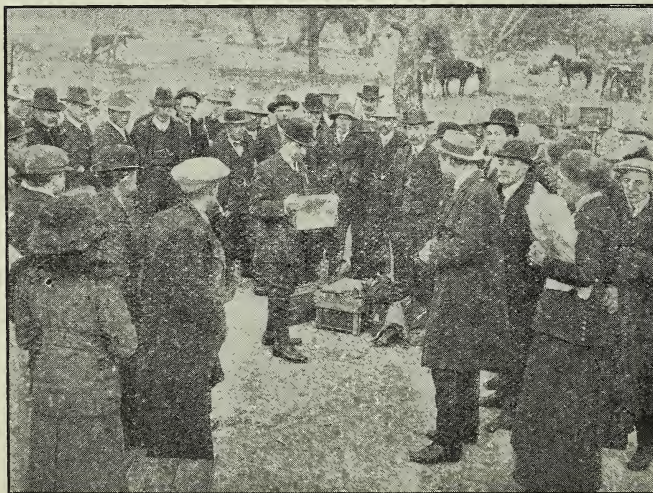
Stowell. The road out was full of interest to the beekeeper, as different species of eucalyptus were passed and noted, and very interesting discussions would take place as to their value to the bee farmer. As it was winter the bees were practically dormant. A few hives were opened at Mr. Liddle's, and the different races of bees examined.

Wintering bees in Australia is simplicity itself compared with the methods the "Yankees" practice with cellars, etc. In the photograph of Mr. Liddle's apiary you will see

a typical Australian method. A piece of sack is put on top of the frames as a mat, and the cover is put on. As long as there is enough honey for the bees they are as safe as man can make them for winter.

After the ladies of the house supplied us with afternoon tea we took a drive through more "bee country," then back to Stowell. Every night of the conference we had lantern lectures by government scientists which were very instructive.

Port Fairy, Victoria, Australia.



Mr. R. Beuhne, government expert, giving a demonstration in queen-rearing at Mr. Liddle's apiary four miles from Stowell.



Yellow box-tree on left and white ironbark gum-tree on right, near Mr. Liddle's Myrtle Bank apiary near Stowell.

TRANSFERRING MADE EASY

BY LLOYD A. JONES

"Got any bees in box hives?"

"Yep, and I reckon I'll let 'em stay too. I hain't goin' to rip off a side of them hives with the bees in 'em, and cut out the combs and fit 'em to frames, and git all daubed up with honey, and git half carried to eternity by stings."

Wise old man that, who makes such a statement when advised to transfer bees by cutting out the combs and fitting them to frames. But let me give you a little less complicated way, old man, which is also a little cleaner, easier, and quicker. You have probably heard some one speak of the Heddon method. The first thing is to get a good hive with frames, and, if possible, four or five or even six frames of comb in which the bees died the previous winter. Put these frames with drawn comb into the new

hive, and insert a division-board close to the outer frame. Go to the box hive, loosen it from the bottom-board, invert it, and place over it a box eight or nine inches deep and just the right size to rest on the box hive and leave no bee-spaces.

Take two sticks and practice your Saturday-night drum part in the band on the sides of the hive. After drumming four or five minutes take off the hiving-box; carry it to the new hive, and dump your bees in front of the entrance. Now put on your



Some of the beemen at Mr. Liddle's apiary.

specs, squat down, and watch for her royal personage. The bees will not stay in the new hive without their queen. If you don't see her, march back to the old hive and begin drumming again. When she goes in, sigh a sigh of relief and go back and restore order in the vicinity of the box hive.

After three weeks make your appearance with the same kit you used before, and drum out the rest of the bees from the old hive. Where did all these bees come from? You gave the hive a vacation of three weeks so that the brood might hatch.

If you think you have a good queen in the new hive, use an entrance-guard at the second drive. Dump the bees as before in front of the hive and watch for queens. If you see any, take them and give them to queenless colonies. Now take the combs out of the box hives. A knife and a saw might come in handy here. Some of the combs will be fairly straight, and some will not. If you have any empty frames, bring them forth. Cut out the imperfect parts of the combs, leaving the best parts in the pieces

that you fit into the frames. Take some wire and wrap around the frames to keep combs from falling out, and then put these frames into the new hive into which you have dumped a new lot of bees.

If there is more comb than you can get in that one hive, fit them to some more frames and give them to weak colonies or save them and give to a new swarm. You will probably have some honey left now; but I am not going to bother to tell you what to do with it, because I know you would eat it in spite of what I told you. I like this way much better than letting the bees take it out of the old hive themselves. That is liable to start robbing, especially if weak colonies are around; and my experience has been that the bees make too much of a good thing out of such a proposition. They go into the hive, gorge themselves, come staggering out, tumble out on the grass, and stay until they get over their drunk. They are wasting time, in my opinion. I would rather do that and let them be working in the field.

Litchfield, Me.

A DAY'S JOURNEY

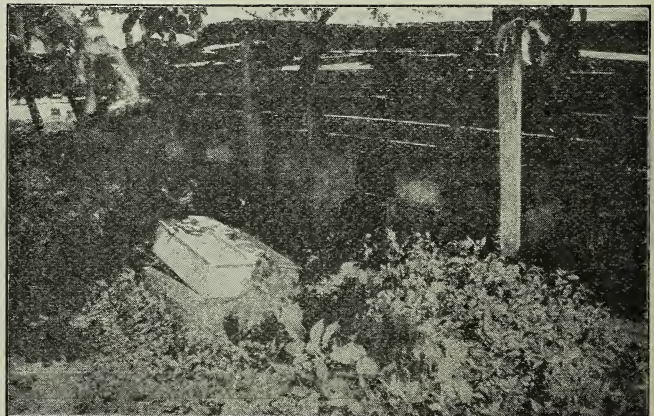
BY S. H. BURTON

If one keeps bees for his own pleasure and profit the information soon spreads through the neighborhood that Mr. So-and-So is a beeman, and many opportunities come his way for advancing the beekeeping cause and helping his neighbors along. Quite frequently some one offers me a beeyard which has been neglected, and which I am expected to take over and turn into golden honey and bees.

Just recently a friend turned his yard over to me to work on shares, and I agreed to transfer the bees into new hives, furnishing every thing, for one-half the bees and one-half the surplus honey that was in the hives at the time of taking charge. By working along this line I have been able to establish several good outyards, and I usually agree to work other yards for half the honey and half the increase if I furnish all the supplies.

As this particular yard was distant some

eight or ten miles it necessitated an early start the next morning if we were to get in a full day's work. The evening before, our spring wagon was placed in front of the bee-supply house, and every thing loaded into it that would be needed. First the tool-case was inspected to see that it contained every thing necessary for transferring and for manipulating hives. This case is large enough to hold the smoker, a hammer, cold chisel for opening old box hives,

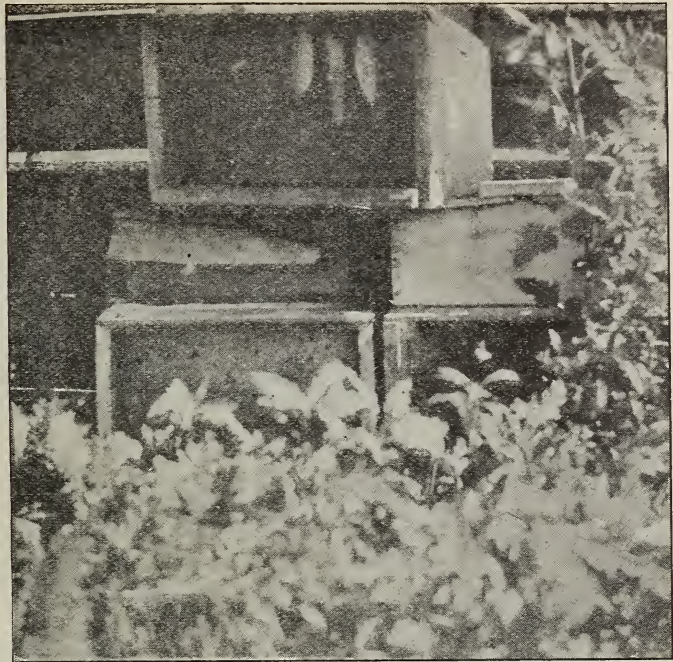


Abandoned bees sometimes do astonishingly well.

a long-bladed butcher-knife for cutting the combs loose, a chisel, a hive-tool, a screw-driver, and bee-brush. This case also has a till in which are carried matches, tacks, several sizes of nails, some large hive-staples, etc. We placed in the wagon six eight-frame hives, several extra brood-frames with foundation, splints, extra supers, two lard-cans for surplus chunk honey, feed for the horse, and a water-bucket. We were ready for an early start except to pack up our lunch before the trip.

An early breakfast and we were off at 3:30 A. M. We enjoy these fresh morning rides past waving fields of grain, through shady dells, over bridges whose cool streams below look inviting for a wade in their sandy banks, now slowly up a steep hill with mammoth beech and oak casting their somber shadows along the roadside, and finally to the crest of the hill where old Prince can stop and blow while we take in a panoramic view of a southern Indiana landscape. In the distance

Still sits the schoolhouse by the wood,
A ragged beggar sunning;
Around it still the sumacs grow,
And blackberry vines are running.



The bees had built comb on the outside of one hive.

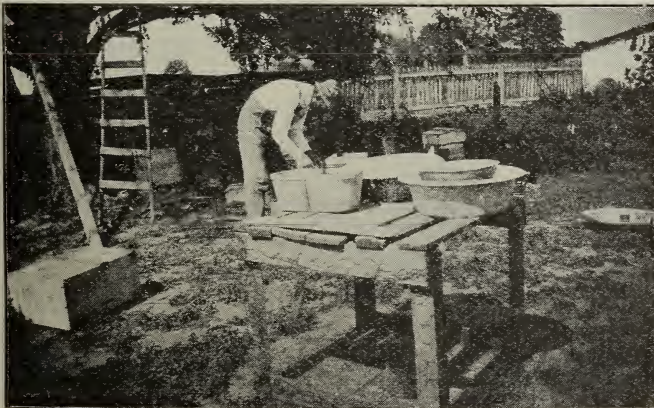
To the south is White River, glistening in the morning sun, and here and there a farmhouse dotting the hillside with smoke lazily curling upward in the damp morning air. Fertile fields lie below us with their long undulating rows of waving corn.

The odor of fried country ham in the cold morning air broke our reverie, and we trotted off to reach our destination at 7:30 A. M.

"We're up against it!" were the first words my assistant spoke on seeing the beeyard. "Blacks!" he yelled, as one took him under the left eye.

A casual inspection of the yard soon convinced us that bee-veils would be a good thing, for we were going to handle some blacks and hybrids that were entire strangers to such things as smokers and modern hives.

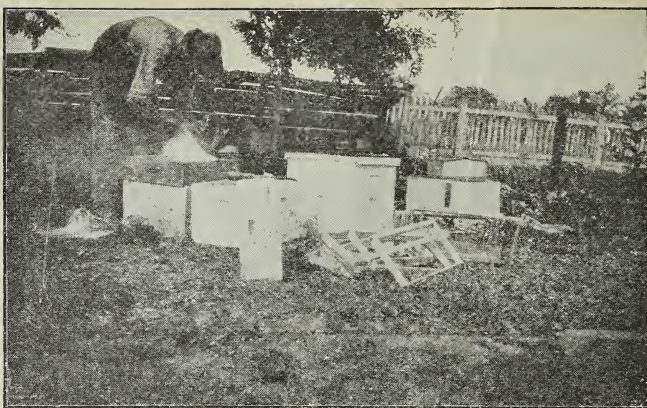
We found fifteen very strong colonies in all manner of boxes, kegs, and antique hives, all swarming with little red ants that crawled



Transferring took plenty of smoke.

up our hands and arms and made us miserable. The chickens and turkeys had made a roosting-place of the shed and tree under which the bees had been placed, and their droppings were six inches deep between the hives. The old foundation on which the hives rested had long since decayed, and the bottom-boards on the old hives had rotted away. Stink-weeds and pokeberry flourished in front of the hives, and the bees were happy in wanton abandon. Stronger colonies one would hardly wish for; and it is a peculiar fact that, where bees are let severely alone, they sometimes flourish surprisingly well.

The first view shows the yard before we commenced work. The second gives a glimpse of one corner of the yard where three empty hive-bodies had been stacked up and the bees had taken possession. One hive with the lid knocked off had an old cloth over the brood-frames, and the bees had water-proofed this

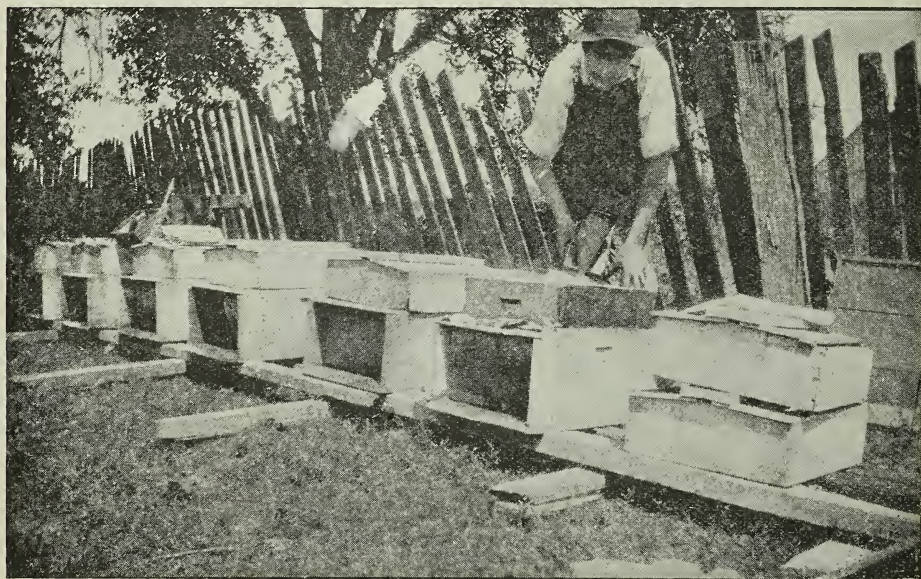


There is a certain satisfaction in cleaning up a hard proposition.

with propolis. This hive had remained in such a condition through the winter, and the colony was strong and healthy.

We removed the hives to the orchard and lined them up against the pickets. The last photograph shows how it looked when we were done with it. We had placed them on good substantial wooden supports with the bottoms about six inches off the ground, with a chance for air to circulate under them. Red ants were effectually kept away.

Washington, Ind.



We moved the hives to the orchard and lined them up against the fence.

STOPPING A ROBBING RIOT

BY ARTHUR C. MILLER

A bee is a reflex machine—er, that is to say, nearly so. She is much like a small boy, always into something; and, like the small boy, must have her attention diverted into other channels if she is to be successfully turned from the mischief-making. You may correct the small boy by a vigorous spanking; but try it on the bee and you will have proof positive that she is a reflex machine.

Last fall I wrote of some experiences in quelling trouble in an apiary, and said that I would give some of the particulars later. Now a friend reminds me that I have so far failed to do so.

The conditions found were these: General robbing was rife, and the bees were fighting mad. A veil was a necessity. There was a swarm out, driven out by the heat and the robbing turmoil. Two colonies were all robbed out, and one had about half of its population killed. Even the brood had been consumed.

The owner and another beekeeper, just previous to my arrival, had searched through these colonies for the queens and pronounced them queenless. When I came on the scene they were decidedly ready for help. Conditions were actually dangerous.

First I shook the swarm into a large box, threw some water over the bees, covered the box with a cloth, and set it in the shade. Then I threw water into the hive the swarm came from, taking off the cover and splashing it over the frames. The hive was then shaded.

The next thing was to stop the robbing, and quickly too. All of the extracting-combs were above escapes, and free from bees. Some of these were rushed into the extracting-tent and the honey extracted. Seizing one of these supers full of wet combs I walked down the whole length of the apiary and back again. The bees poured into the super until it was full of them, and it was then set on a hive floor placed a rod behind the rear row of hives. Another super of wet combs was used in the same way, and then two more. The four were stacked, a cover put on, the entrance reduced to one bee-space, and the worst of the trouble was over. All of the ugly warriors were inside of those very sticky supers. As fast as other sets of combs were emptied of honey they were stacked in the same way, the piles being six bodies high. (The "supers" were full-depth bodies.) Every super was carried out without bottom or top, and the bees were permitted to pile in as fast as they chose;

but once in, and the super on the stack, they could get out only by way of the one-bee-at-a-time space at the bottom. Peace reigned within fifteen minutes after the first super was carried out.

Attention was then turned to the colony that had swarmed. As was suspected, no cells were to be found. The swarm was at once returned, shade replaced, and they settled down to business. The two robbed colonies were the next cared for. A moment's scrutiny of the bees at the entrance of one assured me that they had a queen. The evidence at the other was less positive, for they had lost half of their population; still, I felt pretty sure that the queen was still there. The first stock was opened and the queen was found at once. Two combs of honey were given to it; the entrance was reduced to about one inch, a creosote compound smeared about it, and they were safe.

On opening the second stock it appeared almost ruined. The honey was all gone, all unsealed brood was gone, and much of the sealed brood had been torn open and partly consumed. Over two quarts of dead bees lay on the floor, besides all those on the ground before the hive. The queen was quickly found, and was uninjured. A frame of brood in various stages was taken from another colony, freed from bees, and placed in the front part of the hive right next to the entrance. (All hives in this apiary, about forty, have the entrances parallel to the combs.) The rest of the brood was pushed up against the comb of fresh brood, some of the empty combs removed, and two combs of honey placed in the back part of the hive. The reason for this procedure is that bees will protect brood better than they will honey, or, perhaps I should say, the brood holds the bees close to the entrance, and then they will fight to protect it and their home. The entrance of this hive was also reduced to about a square inch, creosoted, and left. In a few days this stock was nearly normal, though of course weakened.

The psychology of the cure for robbing was to get the bees busy in some other place, and by brief exposure of the wet combs while walking up and down the apiary all of the real persistent and pugnacious robbers were gathered in and permitted to return home only one at a time; and as they of course got well daubed up in those sticky combs they were a long time getting fixed so they could go back.

The diagnosing of queen conditions by

entrance examination is impossible of description; but I can tell you how I learned it. I would dequeen a stock and then sit down and watch the actions of the bees, and the watching might be for an hour or for several hours, and be renewed at intervals for many days. Many repetitions of such procedure shows a lot, provided one has the eyes to see and the ears to hear. This sort of experimental study of bee behavior is most valuable; but, oh how rarely is it used! and how even more seldom do we ever hear of it! One experiment will not suffice. It must be one after another during different parts of the season, and season after

season, and with different strains of bees. Can I always tell conditions within the hive by appearances at the entrance? Frankly, no. But I can most of the time, particularly where I know the normal behavior of my strain and the general standing of my apiary. Under such conditions I can tell enough to save myself from opening any but an occasional hive, and even then a casual glance across the top of the frames is all that is needed to settle the matter.

Try the plan of experimental observation and see if you do not discover a new world in bee culture.

Providence, R. I.

FURTHER PARTICULARS ABOUT THOSE TEN-POUND PAILS FOR FEEDING

BY J. L. BYER

When sending in "Notes from Canada," Dec. 1, I did not think that the item on using the common ten-pound friction-top pail as a feeder would excite any comment, as I knew that here in Ontario, at least, the plan was known to the majority of our beekeepers, as it has often been discussed at our conventions. Imagine my surprise, then, to get letters from California, Texas, Florida, and New York, to say nothing of intermediate points, asking that I explain more fully how we use the pails. So far as I know, I have personally answered all who gave me their addresses; but as some wrote me asking me to describe the plan in GLEANINGS, and gave no address, I am taking this opportunity to oblige the last-named, and at the same time to save me from doing a lot more writing on this subject.

The pails that we get here in Ontario have a lid that presses down in such a manner that, when it is firmly in place, the edge of the pail projects quite a little beyond the flat surface of the cover; and as they are inverted over the bees on top of the frames, this projecting edge allows a space for the bees to move freely between cover and frames. With a perfectly flat-surfaced pail this same advantage could be given by placing small strips of wood under each side.

Now as to preparing the pails, that is simplicity itself. Remove the lid to be used, and place it on a block of wood with the inner side up. With an awl or other sharp-pointed instrument (I have used even a three-inch nail filed sharp), punch 40 or 50 holes in the lid. Preferably have a larger number than this with very small holes than a less number with larger openings. Punching from the inside of the lid leaves a

smoother surface inside, and will insure cleaner draining of the pail.

For use, all that is necessary is to fill the pail with syrup, firmly press in the lid, and then invert pail and all right over the bees to be fed. If you use a double-walled hive with an extension to take roof or super, simply turn back a corner of the quilt; invert the pail over the exposed surface; pack around it if the weather is cool, and the job is done. If single-walled hives are used, place an empty super on top and place the pail inside. If a honey-board is used it will be necessary to have an opening cut in the board and place a pail over this opening. This is an ideal condition for feeding, as all heat is kept in, and it is absolutely safe from robbers, as the pail fits closely on the board.

Nothing is new about the principle of this feeder, as it is simply the old-time pepper-box feeder used in a more wholesale manner. The hives must be fairly level, and the pail-tops perfectly tight, and then the syrup will come out no faster than the bees draw it from the holes. Atmospheric pressure does the rest. As the syrup is drawn away from the bottom of the upturned pail a vacuum is formed, and this keeps the syrup from running out of the holes. In feeding at an outyard, if you wish to give a colony more than ten pounds of syrup at once, simply give them an extra pail and they have twenty pounds—no measuring of syrup nor slopping it over hives; as the pails can be filled inside of a building and carried out as wanted. If the feeding has been delayed till late cool weather, a pail may be placed directly over the cluster, all packed snugly above, and the bees will take

the syrup readily. In fact, while carrying out some experiments in 1912 for the editors of *GLEANINGS* I fed some colonies like this late in December, when the weather was decidedly cold. Some other feeders are no

doubt just as good; but I doubt if any are always just as handy to use and just as easy to get. Try them and see if you do not agree with me.

Markham, Ont.

THE APITRAM; BEEKEEPING WITH THE LABOR LEFT OUT

BY WILLIAM BEUCUS

In beekeeping there is, at present, a great deal of labor wasted. Wooden hive-stands decay, warp, crack, come loose at the corners, and become unlevel. They must be repaired, leveled, and replaced, all of which costs much labor and money and time in addition. When the honey-flow arrives it becomes necessary to go through all colonies to determine what shall be done to prevent swarming. To get to the vital part, the brood-chamber, it is necessary to lift off the supers, and, when the examination is over, lift them back again. When a swarm issues, the supers must again be handled to get to the brood-chamber for the purpose of shaking or brushing off bees. Every examination and every manipulation which involves the brood-chamber is necessarily preceded by a great deal of unnecessary hard work.

When the time comes to remove the crop, still more hard work must be done. It is no fun, even for a powerful man, to handle all day chambers of extracted honey weighing 75 pounds. Some effort has been made to overcome this. One uses a wheelbarrow, another uses a heavy wooden track and a car to run on it; but still the entire crop must be lifted bodily and transported to the car, a distance more or less great, and then lifted off again. There is more heavy work in the fall and more in the spring in moving bees in and out of the cellar.

The apitram, shown in the illustration, was invented primarily to overcome the labor of lifting off heavy chambers of extracted honey during the honey-flow. Incidentally a large amount of other work has been eliminated.

As a hive-stand, the apitram, once it is properly set up, overcomes the labor of leveling hives from time to time. Made entirely of iron it is indestructible—there is no depreciation. It is collapsible, and is, therefore, portable. The removal of a few stove-bolts separates the sections which may be put on to a wagon, when collapsed, and moved to a new location.

Fig. 1 in the photograph shows the apitram just after it was set up. The supports are of wood; but these will be replaced by combined rests and stakes made of iron,

which will be very much cheaper in the long run. To prevent these combined rests and stakes from sinking they will be run through an adjustable galvanized plate which will rest on the surface of the soil.

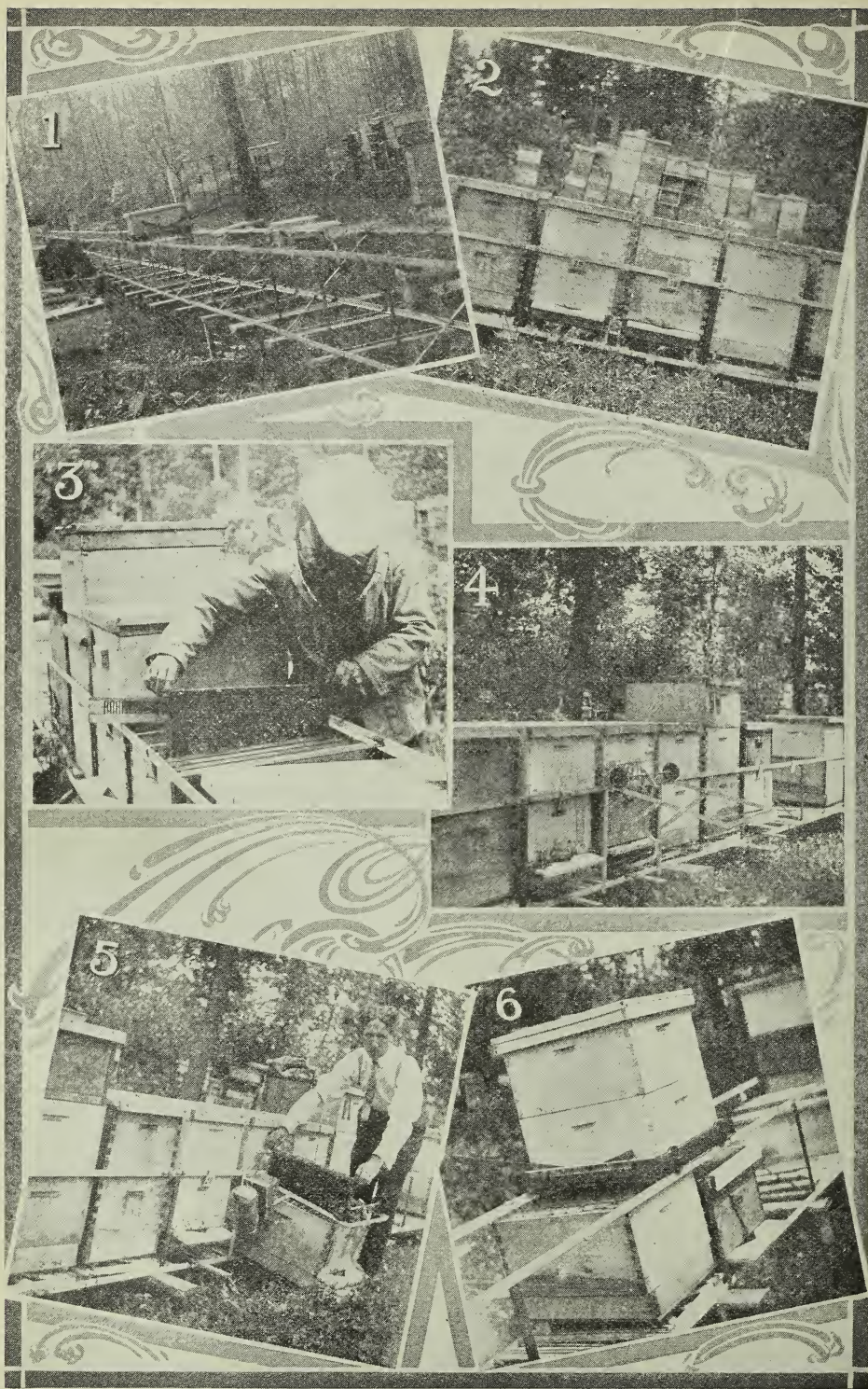
Fig. 2 shows six colonies in place. The center ones, numbered 29 and 30, face toward the camera, and the two on either side face in the opposite directions. This illustration shows the possibilities in neatness.

Fig. 3 shows how combs may be removed between the rails of angle iron.

Fig. 4 shows the lessertram, as we call it—a contrivance by means of which the brood-chamber is rolled out from under the upper stories for inspection, removal of combs, forced swarming, replacing queens, etc.

Fig. 5 shows the brood-chamber drawn out and examination of combs taking place. Notice that the smoker is hung conveniently near. Two projections of iron, about two inches long, will later be riveted to the opposite side to furnish a support for the first comb removed or for the division-board. In front a part will be fixed for the scissors and the hive-tool.

Withdrawal of the brood-chamber is accomplished as follows: The T, shown in Fig. 2 and also in Fig. 1, just below the caster, is shoved back. This lowers the rear end of the brood-chamber. The lessertram is slid over into place and the hook rolled up until the point is well under the hive-bottom. The wheels are now allowed to roll down as far as they can, which tightens the grip. Two blocks, one of which is shown in Fig. 1, are removed from the tin channels in which they slide, thus lowering the forward end of the hive which now, in most cases, begins to roll forward. With a slight pull the chamber is brought out as far as it will go. As there are two casters at the back of the hive, which run in the tin channels, and as the two wheels on the lessertram are of the roller-bearing type, the chamber sometimes rolls half way out without being assisted. The tin channels make it impossible for the casters to run sidewise when shoving the chamber back. It must go back to the point from which it came.



Wm. Beucus' scheme of locating hives on a steel track so that lifting and carrying supers is avoided.
 Another view of Mr. Beucus' apiary is shown on the cover.

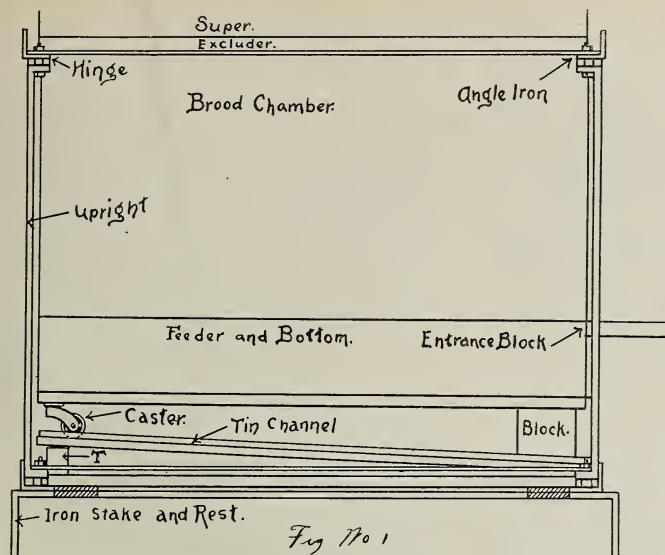


Fig. 6 shows the apitruck. To use it, the brood-chamber is first lowered. The side toward the camera is removable, which makes it possible to roll up the apitruck and surround three sides of a tier of supers. The fourth side is now replaced, thus surrounding the supers entirely. The levers, a pair on each side, take hold under the supers. Each pair works in unison. A pressure of about one-tenth or less of the weight of the supers is needed to lift them.

The apitruck is supposed to be extended into the extracting-room directly to the uncapping-tank. The photograph shows the apitruck in the center of the apitruck with a tier of supers on the way. In actual use the tier of supers nearest the extracting-room is run in first. This leaves the track clear for the second tier. Thus one tier after the other is taken in. The wheels in the apitruck are roller-bearing.

No doubt the reader will gaze at the apitruck in despair, and remark mentally, "It must have cost a lot of money." But such is not the case. One lessertram, one apitruck, and 160 feet of apitrack cost with freight, cartage, labor, money orders, iron, bolts, etc., included, \$46.60. The cost is thus less than 50 cts. per colony. Of course my own labor was not included.

Are we justified in making an outlay of 50 cts. on a colony? Let us see. With the apitrack, only brood-chambers are handled during the honey-flow. The time and labor thus saved can be used to handle a great many more colonies. In my own case I think it will be double the number. But this is not all. If the hard work is eliminated, the period of productivity is lengthened.

Man's power to do hard work decreases as his age increases, after a certain point is reached. If the apitrack enables a man to produce even five more crops than he otherwise would, has not the apitrack paid for itself?

Some may say that facing two colonies the same way, with only two inches between them, will cause the bees to mix and will result in the loss of young queens. I have watched this closely during the season and have yet to find a single lost virgin although several nuclei

were placed on the apitrack for the purpose of having virgin queens fertilized. Now as to bees mixing.

In August a colony of black bees on the apitrack was examined; and, strange as it may seem, the colony had not a single yellow bee, although the bees two inches from it,

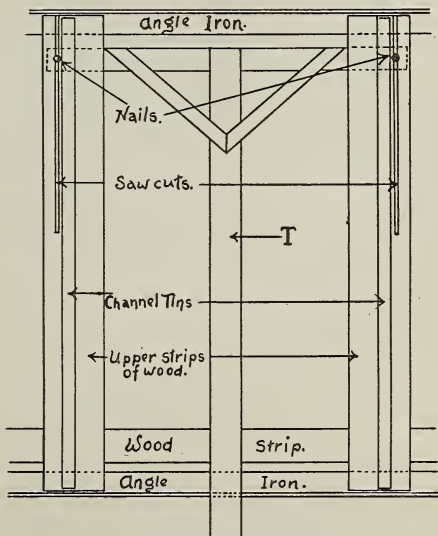


Fig. 72 2

in a hive facing the same way, were hybrids with yellow strongly predominating. In fact, an entrance close by enables a bee to mark more certainly its own. How do I know this? When a brood-chamber is rolled

out, some of the bees of the adjoining hive endeavor to find an entrance at the back of the hive next their own. They have marked their entrance as one of a pair. With a chamber rolled out they return to one entrance instead of a pair, and naturally shift over one place to the right or the left as the case may be.

Briefly summing it up, then, we may say that the apitram and its accessories secures the following advantages:

It furnishes a hive-stand which, once properly leveled, need not be leveled again.

It eliminates depreciation of the hive-stand and reduces depreciation on hive-bottoms.

It prolongs the producing period of the beekeeper.

It immensely reduces the hard labor in beekeeping, and thus makes the work pleasanter.

It greatly increases the number of colonies one can keep, and thus makes the business more profitable.

It makes the business look more like a business.

It secures the maximum of neatness.

By placing the largest number of colonies in the smallest amount of space it saves space and steps.

Cadotte, Wis.

[We presume that some may be inclined to ridicule this array of machinery, tracks, etc., for doing away with the lifting in an apiary. However, none can doubt the ingenuity displayed in the arrangement considering all its details.

We do not wish to throw cold water on so clever a plan, but there are a few objections which we believe Mr. Beucus himself will recognize after he has tried the arrangement several seasons.

Having the colonies so close together, besides causing some mixing up on the part

of the bees (of course partly done away with by changing every two colonies around so that the entrances face in the other direction) also causes some inconvenience to the apiarist, as it is necessary to stand at the back instead of at the side of a brood-chamber unless the brood-chamber is run out in front by means of the "lessertam."

We admit that the whole arrangement seems to us rather complicated. Taking every thing into consideration, the time of putting it up, etc., we doubt whether it would bring about an actual saving in time; but that it may be a saving in strength after it is once set up, there is little doubt. In this country, where it is not necessary to locate the colonies in the smallest amount of space possible, it is a question whether it pays to spend very much money on a permanent equipment, such as a house-apiary, for instance, or some such device as this mentioned by our correspondent, for conditions are such that it often becomes advisable to move the bees from one place to another. While this apitram could be moved we think that the labor required would be a considerable item.

In our opinion, moving supers to the honey-house by means of the apitruck would not be practicable, at least in very many cases; for unless the extracting is postponed until after the honey-flow, empty supers must be returned to the hive. If the apitruck were used they would have to be stacked up until the whole extracting were finished, and then returned all at once; moreover, in case of double-story colonies, or colonies with partly filled supers, the upper stories would often be in the way.

After having said all this, however, we believe there are possibilities connected with the plan. If an expenditure of a moderate amount of money will bring about a saving of both time and labor, such expenditure is worth looking into at least.—Ed.]

THE BUGBEAR OF SPRING DWINDLING

BY E. S. MILES

When I first began to have the bee-fever, more than twenty years ago, one of the first phrases I heard that came near curing the fever was "damps." A farmer kept some bees in the "good old way" in some boxes in the back yard, and one severe winter a large part of them died. The old farmer, investigating on the first warm day toward spring, found the combs all wet and daubed with honey still in the hive. So, thinking they could not have starved with honey

in the hive, he very properly, perhaps, with his knowledge, said they were afflicted with the "damps."

That word "damps" struck a chill through my apicultural frame, if you will allow the expression, and lowered my fever several points. Why do bees die with some dreadful mysterious malady? Damps? Whew! the name was enough to dampen one's rising enthusiasm. But on second thought it occurred to me to ask myself

whether the person making the diagnosis was competent. If it was really a disease which occurred only in winter, then why not *every* winter?

So the conclusion came that it perhaps was not a disease, but the result of some conditions that might be avoided. So the "fever" advanced until I got possession of three or four colonies of bees, and in the course of time I secured the 1891 edition of the A B C and X Y Z of Bee Culture.

I had just about recovered from my misgivings about the awful "damps," when, in reading this admirable book, I came to the subhead, "Spring Dwindling," under the head of "Wintering."

After looking at the picture of the "blasted hopes" apiary I thought, "Horror! here is a malady. Now if you're wise you'll go a little slow on this bee business."

By this time I was too far gone to be scared out of the business, so I went on studying and practicing what I studied, to see how it would work for me. But for some time this spring dwindling haunted all my beekeeping thoughts. Some spring I would tell myself, "My bees will get spring dwindling, and I'll be wanting to sell out cheap and 'move to Kansas.'" In the mean time my bees wintered well, came out of the cellar (for after reading the evidence I decided for cellaring) about as strong as they went in, and seemed to have just as much vim and energy in April as in October.

After a number of years I began to question the idea that this spring dwindling is a mysterious and unpreventable thing, whether disease or effect of untoward circumstances. By this time I had found that in actual practice, with me, some things worked out a little differently from what I expected when I read the book. I began to see that, while the book was in the main correct, yet everybody would not everywhere reach the same conclusions by following its instructions; and that when I undertook to do something "according to the book" I was not bound to accept only what results the book led me to expect, but that I could get whatever results there actually were. From that time I really began to learn the ways of our little friends. The book, therefore, was a sort of guide to start me on certain experiments until such time as I should be advanced enough to guide myself.

Well, by the time I had kept the bees several years, and had increased to a small apiary without winter loss or any appearance of the dread spring dwindling, I began to gain confidence; and as I gained confidence the fear of spring dwindling grew

less. By this time I even laughed at the "damps."

So it ran on from year to year. I tested outdoor wintering also, alongside of cellaring. After fifteen years of wintering all kinds of bees in about all kinds of conditions I came to say to myself, "Why, what makes you say, 'I'll do so and so, if the bees winter'?" If you care for your pigs, cows, or horses in a proper manner, don't you figure on having practically all of them next spring? Of course, but they are not bees. What difference does that make? If you have cared for your bees as to feed and shelter for fifteen years, and they have proved it by coming through safely, can you not do it for another fifteen years?

So now I was almost laughing at the phrase spring dwindling—not that it was quite as mythical a thing as the "damps," but fast becoming so.

About this time I stumbled on to the greatest fact in regard to the nature of bees that has come to my knowledge thus far on my apicultural journey. This great fact is the variation in bees. Heretofore "bees were bees." I looked upon them as all alike, to be treated all alike, and to expect like results. It took several years to convince myself that my imagination was not playing me a trick.

But in these several years wherein I was studying this fact of variation I really came to laugh at the term spring dwindling. Yes, I know what beekeepers mean by it now who recommend a certain kind of hive to prevent it, the same as I know what ailed the old farmer's bees when he said they had the "damps," and he wanted a moth-proof hive too to save his bees from the moth-worms, just as you want a chaff hive to prevent spring dwindling. You ask if I mean to say a chaff hive will not prevent spring dwindling. No, I don't. I let those have chaff hives who want them and think they can afford them; but they may or may not prevent spring dwindling. Have you guessed by this time what causes it?

Give my guess—spring dwindling is caused by unfavorable surroundings or poor feed, or both, through the early part of the winter, this causing the colony to reach the season of year when it needs the greatest vitality, with greatly lowered vitality. Hence, instead of gaining in normal seasons, or holding their own in adverse ones, it loses. or spring dwindles, until some cold night finds them with too small a cluster to maintain the necessary heat, and they perish.

Now I hear some one asking, "What has your variation to do with the matter?" Mr. Root, in that old edition referred to, says in

substance that it will affect one part of an apiary and not the rest, or all of one and not another a short distance away. "Some don't seem to be affected by it at all." Is there not variation in bees as to hardiness, good wintering, honey-gathering, swarming, and many other traits? But these people whose bees suffered with spring dwindling and the "damps" thought a "bee was a bee," and one swarm as good as another if it had as many bees.

When I had kept a correct record of colonies for years I began to see that a bee was a bee, and in some cases quite a little more so, and that some colonies would stand a whole lot more adverse circumstances than others without serious injury; and, more, I

found if one bred his queens from these a large proportion would be the same; and that by breeding from a good thrifty, hardy, honey-gathering strain, one would have better colonies to start winter with, and more and better stores. Then each colony would also have more vigor to resist untoward conditions if it did happen to meet them, and, finally, would have more vigor and "grit" to hang on if by any chance the colony does get injured in wintering. So, now, when I hear any one saying, "We had an awful spring, my bees got spring dwindling," I always think of the old farmer whose bees got the "damps."

Dunlap, Ia.

THE ALTERNATIVE: FEED OR UNITE?

BY L. E. KERR

It is not always necessary to feed bees, since for years they go without requiring such attention. Certainly it is never advisable until necessary. It depends upon the nature of the crop, bees, queen, hive, season, and management. For several years we have done no feeding whatever, but have frequently employed the alternative of stacking colonies until the pile is sufficiently deep that the food question among them becomes one only of moving occasionally to the next floor.

In a climate that does not favor close protection, united colonies have often been left to arrange household problems as fancy dictated, and they invariably come out in spring in a condition that argues well for co-operation. With strong colonies, however, and especially where decrease is objectionable, there is a question as to whether it would not be more satisfactory to put at good interest some time and money in keeping integrate and well fed the separate family circles.

When with the modern shallow brood-chamber an occasional colony stores all honey in the supers, to be removed entirely by the inconsiderate apiarist, why should he not in return provide other and ample stores? Otherwise, could he reasonably hope another season to have any surplus at all in those supers?

Should any appear light before flowers bloom, an empty super can be put on, a few pounds of loaf sugar heaped upon the frames, and every thing packed warmly with paper or burlap before the outer cover is again put on. It is the work of but a

moment, and cannot be improved upon for cold-weather feeding.

Bees, unlike their owner, regulate operations at all times in strict accord with the extent of their resources. Unless they go into winter well supplied, their stores by spring will be much reduced; and, above all others, this is the very time they never should feel pauperized.

With the advent of flying weather if any colonies have insufficient means for unhampered brood-rearing, some profitable stimulative feeding can be done. It is best done evenings, and can be gradually lessened as nectar increases. While some speak lightly of slow feeding to induce brood-rearing, it will give greater results.

In small feeders efficiency is embodied in a one-cent self-sealing can having a dozen small nail perforations through the lid. They can be inverted directly upon the frame tops, above the cluster, but are used to greatest advantage over the opening of an escape-board or inner cover. If such a cover is left on during fall and winter, it will be tightly sealed to the hive, and no cold drafts created.

Among all living creatures few instances can be found where nature ordered a faster shifting of generations than is provided in the worker bee. Well within each sixty days, through the summer season, the home is refilled with an entirely new throng of thousands of bold restless toilers eager to let not one moment of their brief existence go unfreighted with some act of devotion to queen and the common good. While with the idleness of winter their life-cycle is somewhat augmented, and a few, perhaps,

never learn menial labor, the older bees are relentlessly but gradually lost to the cluster. Before the flowers of spring bring a welcome reprieve, best stocks are more or less depleted; consequently, to have an active force of young bees ready to replace the few feeble survivors, it is imperative that brooding commence without delay. This will occur naturally only when a plentiful store of honey is accessible. This is always the deciding factor in profitable and consistent spring feeding.

There is always one time when winter and

spring feeding is in place, and that is when any colony is without stores.

Ft. Smith, Ark.

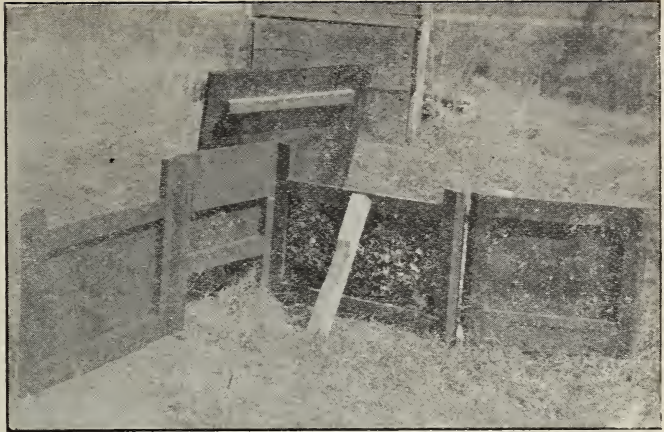


FIG. 1.—The four sides of case are hinged together.

A FOLDING SPRING PROTECTION

BY H. HARLEY SELWYN

I am sending some illustrations of a spring protection case I have had in use for nearly six years now, and which has proved very satisfactory. The framework holding the heavy grade of roofing-paper is dressed

lumber of $\frac{7}{8}$ -inch thickness, and the four pieces hinge with cheap strong hinges. An entrance-block crosses the front of the hive and holds up the shavings and also keeps the case the required distance from the front



FIG. 2.—It is not difficult to pack each hive snugly.

of the hive. Each colony is packed on its regular summer stand after being moved out from the cellar. The stands are made of 2 x 4-inch scantling, with a graded light board in front. This may all be seen from the picture. Over every thing is a heavy wooden cover which may be built either of rough or matched lumber as you wish.

A special feature of this style of spring protection case is that it can be laid out flat when stored away, and so will take up practically no space. There are 100 of these cases in use in our yard, and they all go in a lean-to not much bigger than 6 x 10 feet.

In one day I have packed a hundred colonies with shavings, and removed them equally fast later in the season when the disagreeable blustery weather had passed.

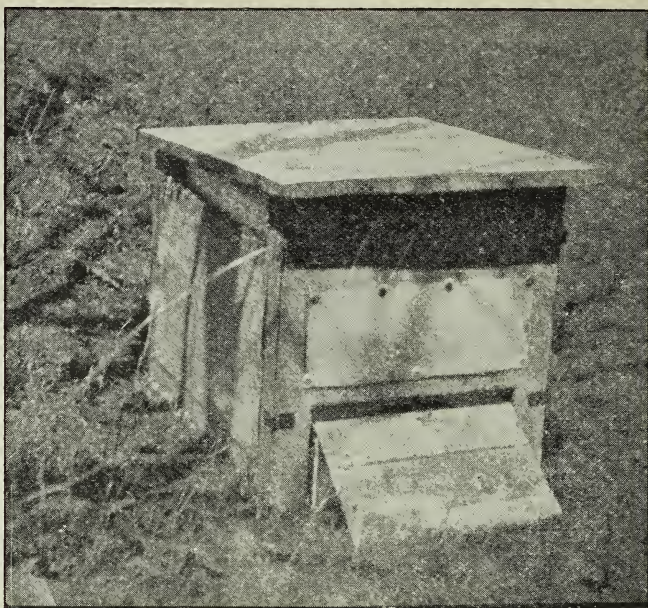


Fig. 3.—The spring case furnishes ample protection against blustery weather.

The views show, first, the case in parts; next, being placed about a hive; and, lastly, the shavings in and cover on.

Kirk's Ferry, Quebec.

BUILDING UP WEAK COLONIES

BY B. KEEP

"Build the colonies up strong and have them ready for the honey-flow."

That sounds good; but how shall I do it? asks the inexperienced person; and many of those not so inexperienced are turning that same question over in their minds, and quietly seeking a satisfactory answer. It is one of the peculiarities of beekeeping, that so frequently it is impossible to accomplish what is desired. Conditions, whether known or unknown, or unnoticed, serve to control events in spite of the most intelligent human intervention.

The foundation of successful beekeeping is a good working knowledge of the natural instincts and ways of the bees, and a logical adaptation of methods so as to harmonize with those instincts, and guide them to our advantage.

The various methods of "building up a colony" have been brought together here in a brief way so as to be available to the reader who may have limited means of information.

The natural increase in a small colony of bees is necessarily slow, even when all conditions are favorable. Consider for a moment that there are household duties to be attended to within the hive which require the constant attendance of a body of bees which is all the time getting smaller. There is the warming, feeding, and capping of the young brood; the feeding of the drones and the queen, housecleaning, propolizing, guarding, etc.; so that, if there is to be any increase in numbers these bees must not only care for and rear others to take their own places, but also many more for the increase.

It is well known that any shortage in the food supply, whatever the reason, immediately curtails the activity of the queen. One of the first requirements, therefore, is to know that there is an ample supply of food in the hive, or, if there is a shortage, to supply it at once—not in one great deluge, which is not nature's way, but steadily and in moderation. Thus we set up a good imitation of natural conditions of food supply.

Feeding is for the purpose of making "times" less "hard," and creating among the bees feelings of hope and confidence which natural circumstances may have prevented. Apply the figure to ourselves, and observe how much better we work, and how much more we accomplish when hope and confidence keep us company.

The natural and very logical habit of keeping the brood-nest as nearly as possible solidly spherical, and the refusal of the queen to deposit eggs much if any beyond those limits, gives us the opportunity to place empty comb space within those limits where the queen can and usually will get busy very promptly—in fact, laying just that many more eggs than she would under the original condition. There is need to be careful, however, that weather conditions be settled and warm; also that the colony shall have bees enough to carry on the added work, or this "spreading of brood" should not be done.

The weakness of a colony is very often due in the first place almost entirely to the queen's failure to produce brood sufficient to keep up the population. This can be determined partly by her appearance and movement, and partly by the proportion of brood to adult bees in the colony. A prolific queen will keep a much larger proportionate amount of brood than will a poor queen. It follows naturally that a new queen will be the proper remedy. A young queen will give the house bees all they can do, and they will, perforce, have to work harder with consequent good results.

Too much house room is just as bad for bees as for humans; a small family in a big house has difficulty in keeping warm, and the empty rooms have a depressing effect. Twenty people in a small room vote a meeting a great success, while the same number in a big room say "there was no enthusiasm, there were so few there." Then, too, the small room gets pretty warm, perhaps, while the big room is too chilly for comfort. Therefore divide the brood-chamber by a padded division-board so as to give the bees an apartment suited to their numbers.

Feeding, spreading brood, and requeening, together with adapting space to bees, constitutes about all that can be done toward building up a single lone colony; but when there are other colonies available there are other means of helping the weakling.

When a man is poor, the best way to overcome the deficit is to get money. Fortunately with bees such a proposition is not so silly, and we can put the idea into practice by taking from a rich colony, which can

afford the donation, a frame of sealed brood (which will impose no additional labor upon the weak colony), and giving it, with the bees which may be on it, to the colony to be helped. Such a frame with bees may be slipped in at one side of the brood-nest (not in the middle), and there will seldom be any disturbance. By carrying this operation to the limit, a full-sized strong colony could be built up in about fifteen minutes; but it must be remembered that each frame of brood taken from any colony means just that much setback to that colony, so that what is gained for the weak colony is lost somewhere else.

A good strong colony with a young queen may be able to give up two frames of brood and bees during the season without noticeably affecting their prosperity. If no surplus is expected from such a colony, then it might furnish ten frames of brood, or more, in a season.

There is another method of building up a weak colony, but which is not to be recommended for general practice; and that is, to exchange stands, a weak colony with a strong one. This operates by the field bees going home to the old stand which has then the weak colony. There is risk in this of starting a fight by which more would be lost than could possibly be made up in any way. The result would be two weak colonies instead of one.

There is another way of dividing the bees of a strong colony with the weak one by setting the weakling on top of the strong one with a queen-excluder between, and after a few days setting the under hive off upon a new stand. This is known as the "Alexander method." This operates by giving the weakling the larger proportion of the adult bees, and the hive upon the new stand has all the brood and the young bees. The large amount of brood continually hatching soon builds up the colony on the new stand. This method requires a knowledge of how and when to do it, which makes it necessary to be posted on Mr. Alexander's directions.

These expedients are possible only where two or more colonies are available. There seems to be a point in the number of population above which things go on amazingly on a high tide of prosperity. On the other hand, when the population falls below that critical point there seems to be a drag to every thing; stores disappear, brood diminishes, and a general atmosphere of discouragement can be noticed when the hive is opened. A weak colony is a pathetic sight to the owner.

As a safe suggestion, the beekeeper

should have a clear idea of just what he is expecting to gain by any particular manipulation, and should look both ways before he takes a step.

There is one bit of advice which is always in order; and that is, acquire the best possible theoretical knowledge of beekeeping by reading—yes, studying—books upon the subject; and if one desires the greatest satisfaction, do not stop with one book but

become familiar with all the best writers. If one cannot compass so much, then by all means make the A B C and X Y Z the textbook and guide. There is this great advantage with this book, that it is a cyclopedia of the art and science of beekeeping. It is not the exponent of one man's theory or practice, but is the cream from all.

Lyndhurst, N. J.

AMOUNT OF SYRUP NEEDED FOR DRAWING OUT FOUNDATION

BY GEORGE T. WHITTEN

As there appears to be no end to the discussion on the subject of stimulative feeding I will add more. It is advantageous in any case where there are bees enough to keep the brood-nest warm enough to hatch all the eggs that are laid, or when artificial heat can be supplied; otherwise, in almost all cases it is a waste of time and good material.

A good queen will lay all the eggs that can be cared for, and many more in case of a weak colony. The queen will continue to expand the brood-nest at any time when weather conditions are favorable; and unless means are provided to keep the hive warm by bees or artificial heat, the eggs simply chill and do not hatch, yet the queen continues her work.

The trouble with most of us is that the colonies get strong enough for good work just too late for the honey-flow. They need protection more during March and April than at any other time of year. My bees that are kept in the house build up very rapidly during February, March, and April.

I have one queen that has laid almost continuously, summer and winter, for nearly three years.

I am quite sure that a strong colony will draw out six frames of foundation half way on one quart of syrup. They will draw them out to a considerable extent after being

transferred, before being fed any thing; they utilize the food taken with them when transferred, and that, with the amount of wax in the foundation that they use for cell-building, will enable them to draw out the cells to that extent.

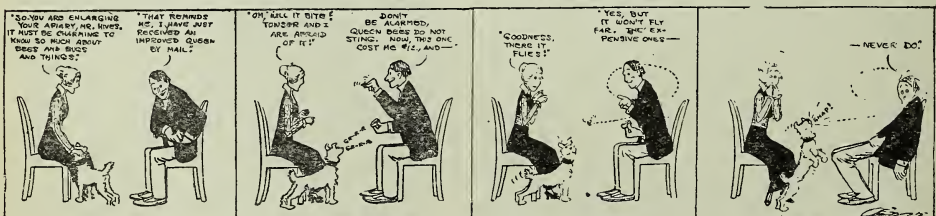
There is surely no mistake in the statement made by the editor, page 794, Oct. 15, and referred to by J. E. Crane, page 52, Jan. 15. Bees will do that, and even better, in some cases; but after they get the cells drawn to that extent it requires many times that amount to finish. They work the mid-rib out very thin when they first start to build comb when there is not much honey coming in. Later they will vary the thickness in proportion to the amount of stores coming. This I have noted at all times.

I have transferred bees many times in winter on to foundation when I was sure they could get nothing except what was given them, with practically the same results each time.

In my opinion, from experiments in the use of different foods for bees, there is nothing as safe, and that will give as good results, as sugar syrup. When feeding syrup I have no trouble, but have more or less when honey or candy is used. The condition of the colony and the season have much to do with the feeding problem.

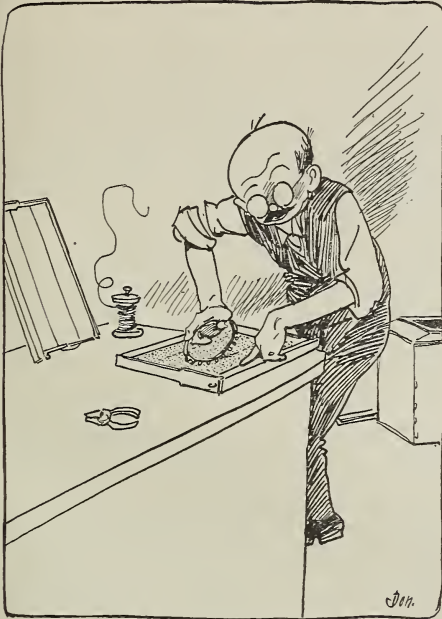
Hartford, Ct.

DIANA DILLPICKLES HAS HER TROUBLES AGAIN IN "HER BEEKEEPER BEAU."



Courtesy Cleveland Press.

Heads of Grain from Different Fields



The Backlot Buzzer

Now's the time of year when Grandpa and the bees both peep out of the front door, and wonder when the thaw is coming.

Trapping a Bee-eating Skunk

I was interested in the article on page 22, Jan. 1, by H. R. Boardman, but I was surprised that Mr. Boardman was so long in finding out how much damage skunks do. Some years ago I had four beeyards, and had each yard fenced with a tight board fence 5 feet 4 inches high, surmounted by two barbed wires. I always kept a box trap at each yard, as the skunks would dig under the fence and then devour the bees by the quart, and sometimes by the gallon, I believe.

The reason I used a box trap is this. When I catch the skunk in a box trap I take the trap (skunk and all) and sink the trap in water until the skunk is drowned. There is no scent whatever.

The best bait I know of is an egg, because other animals will not bother it. For instance, if I bait with fresh fish the chances are two to one there would be a cat in the trap within half an hour after sunset. So by the time Mr. Skunk would get around the trap would be closed.

How many bees can a skunk eat in one night? A few years ago I drove out to one of my outyards about seven miles from home, in November, and there was about three inches of snow. I found a skunk had dug a hole under the fence and had sat in front of one of the hives on the stand so long that the snow was melted. He had scratched a strip of paint off the front of the hive about two inches wide clear across the entrance. I took some steel traps and tracked him about one mile, intending to trap him at his hole; but he went in a crack in the ledge which was several hundred feet long. So there was no chance to catch him there.

Then I went back to the beeyard and set the box

trap near the hole under the fence. The next day I had him. He got into the trap before he got to any hive. When I skinned and dressed him there was a teacupful of undigested bees in his stomach. This was about 36 hours after he ate the bees. He weighed over 11 lbs., and I got over three pints of oil out of him. Of course this was a very large one.

West de Pere, Wis.

PAUL SCHEURING.

Will Granulated Honey in the Cellar-wintered Bees do any Harm?

I am writing you concerning a condition the seriousness of which is yet undetermined. Our bees are snugly quartered in three large cellars, and are apparently doing well; but at the time of cellaring we found an unusual amount of granulated honey in the hives, and we are at a loss to know whether the bees can or cannot use this granulated honey after the liquefied is gone, and before time to remove them from the cellars. We realize that bees will not winter out on summer stands successfully in Utah on granulated honey, but do not know what results will develop from it in the cellar. Since first beginning to cellar our bees the granulation has been very slight until now, but we feel a little uncertain this time.

The cellar temperature of 45 degrees F. plus the additional warmth of the bee cluster has had a tendency to liquefy slightly the granulation since cellaring; and the granulation is less in strong colonies than in weak ones, and is less in the early flow of honey than in that gathered toward the end of the season.

Beaver City, Utah, Feb. 2.

G. W. GIBSON.

[Granulated honey will do no serious damage to the bees in the cellar. Of course we prefer sealed liquid stores; but in the average cellar there is sufficient moisture so the bees will be able to take care of the granulated honey they have. Should the cellar become very dry, which is not likely, they would not be able to use granulated stores like liquid honey in the comb.]

For winter feeding Mr. J. E. Crane recommends granulated honey in place of candy when regular combs of sealed stores are not available, and Mr. Crane is good authority.—Ed.]

Shipping Queens by Freight to Australia

Last season I tried to get queens through the post from the United States, but they all arrived dead. Recognizing the futility of further attempts by post I arranged to have a dozen baby nuclei sent by freight with a queen in each. They arrived in due course, reaching here just before Christmas, in the heat of our summer. They were packed in well-ventilated boxes measuring about 10 x 9 x 5 inches, and each box contained two combs of honey. They had been very carefully put up, and I do not think any thing further could have been done to ensure success unless it was the addition of a water-bottle.

I am not too keen myself on giving the bees water en route, as my experience and that of my sons makes me rather dubious whether it is beneficial or not; but I mentioned it because the editor of GLEANINGS has appeared to advocate it. When I unpacked the bees, two nuclei had died outright. One of these had consumed all its stores, and four others had about half the bees and the queens dead. Of the other six alive, some were pretty weak, and two have since died, leaving four out of a dozen. They are good bees, good honey-getters, and very quiet.

MAJOR SHALLARD.

S. Woodburn, N. S. W., Australia.

Bees Starving with Honey in the Hive

Will you advise me what caused all my bees to die in the hive during present winter, queen and all? They had plenty of stores, and were in a double-walled hive which was also protected by a shed which had a clearance of about 6 inches around the hive, which clearance was covered and stuffed with burlap bags, carpets, etc., so that they certainly could not have frozen. We did not notice them flying these fine sunny days, so we investigated, only to find them all dead. There is no evidence of foul brood.

Would you recommend destroying combs now in the hive before putting in new bees?

Pittsburg, Pa.

WM. MCGALL.

[From our own experience with bees wintered out of doors in chaff hives this year, as well as other reports which are similar to yours, we are led to believe that your colony starved to death with honey all around them. This condition was brought about by the long steady cold stretch of winter weather which we had during the past two months. While there was plenty of stores in the hive, yet the bees were so stiffened by the cold that after they had eaten all the honey within reach they were unable to move over, and, consequently, starved to death.

If you are sure that there is no disease in the combs there is no reason why you should not use them again.—Ed.]

Substitutes for Pollen should be Fed

Why use sweet of any kind in a pollen substitute? Mix it according to my method, page 313, April 15, 1914, and I will guarantee that the bees will do the rest in a proper manner.

I have fed flour for twenty-five years with good results, placing it in the beeyard in shallow boxes, rye, graham, shorts, and bran thoroughly mixed. The bees work it as readily as they would natural pollen or even honey. There is sufficient natural oil or starch in the mixture that the bees have no trouble whatever in loading up quickly. I doubt if the bees use any honey in the manipulation of this substitute or the natural pollen, other than that naturally contained in the blossom producing it, L. L. Langstroth to the contrary. True, it is very sweet to the taste, yet is readily crumbled like pellets of flour.

Union Center, Wis.

ELIAS FOX.

Painting Hives is Economy in the End

I take care of over 250 colonies of bees, and have watched every point in bee culture for years. I began when young, and am now 55 years old. I have read that Dr. Miller does not believe that painting his hives is an act of economy.

I want to say to my bee-brethren that, if they make their own hives, and are not willing to use all the paint necessary to protect the wood, they should paint the inside of the hive first. This will prevent the sides and ends of the hive from taking up the moisture from the bees on the inside, and thus prevent the sides from curling out. I favor painting on both sides with good oil paint. I believe this is economy in the end.

Grand Valley, Colo.

N. M. GOOD.

Place to Scratch Matches on the Bellows of a Smoker

I have an improvement on the smoker that is so simple that one might smile, and perhaps feel a little disgusted over it; but after using it a few times that feeling will disappear.

Take a little very thick paint; spread it on the lower right-hand side of the bellows, next to the fire-pot. Cover the lower half, and then fill it with coarse sand. After it is thoroughly dry you will smile every time you scratch a match on it.

Bradentown, Fla.

D. W. ABBOTT.

Boards to Protect the Winter Entrance

I notice by Jan. 15th GLEANINGS that the entrance to those large quadruple winter cases on the cover picture contemplates using a board for a runway to the entrance instead of leaning it up in front. I may say that in this locality, where snow gets quite deep, it seems to be a great advantage to lean the board up in front. It prevents snow blocking the entrance, as the snow slides away from the entrance, and it never packs solid under the board. After the first day it does not seem to annoy the bees to have the board there. I am never the least concerned about the entrance if snow is three or four feet deep, as I know they will be all right so far as the snow is concerned.

Forest, Ont.

I. LANGSTROTH.

Lead Pipes in Honey-tanks

We intend to put some kind of spiral pipe in our extracting-tank next year, so that we can turn on the steam and heat the honey enough to prevent granulation. This would be a convenient way to heat bulk comb just before packing it. Does any one know whether the use of lead pipes would affect the flavor or quality of the honey?

Corpus Christi, Tex.

E. B. AULT.

[We have never used lead pipe in connection with honey. We should be afraid, however, that it would not be safe. Can any of our readers report?—Ed.]

Has Tried Eight Hives in a Case

Dr. Miller, p. 95, Feb. 1, suggests trying quadruple winter cases with hives two deep, eight in a case. I tried this two-story plan one year, with the result that in the spring nearly all of the bees were found to be in the lower hives. Perhaps it would work better if the entrances were turned in different directions.

Valparaiso, Ind.

E. S. MILLER.

In opening a colony of bees to note condition a few days ago I found several combs badly mildewed, especially on the ends toward the back of the hive. Will this condition bring any bad results? or will the bees clean it up later?

Quite a number of combs are white with mildew, and I find nothing after searching the A B C and X Y Z.

Morganton, N. C.

L. E. WEBB.

[You need have no fear of the mildew doing any harm. As soon as the weather turns warm enough for the bees to fly every day and to build up they will clean up the combs and use them, and without any bad effect on the bees. Mildew is found very commonly on combs in hives in the spring of the year, especially where they have been wintered in a damp cellar; but the same condition is oftentimes found in outdoor-wintered colonies as well.—Ed.]

My Dream Woman of the Bees

BY GRACE ALLEN.

She works and she sings, like her bees with brave wings,

Exultantly eager and free,

Unfolding in beauty like flowers of the sod
That flood with their fragrance the sunshine of God—

This woman I'd like to be.

A lover of trees and birdsongs and bees,

She treads where the poets have trod;
Like Martha she labors, and still like the sweet
And quiet-souled Mary she sits at the Feet,
And listens alone to God.

Nashville, Tenn.

A. I. Root

OUR HOMES

Editor

By their fruits ye shall know them.—MATT. 7:20.
There is no other name under heaven.—ACTS 4:12.

Since giving place to the letter from friend Boone on p. 958, Dec. 1, I have received several letters of like tenor, some of them severely censuring church members, ministers, and the Christian religion generally. I cannot give space to these letters, for I try hard to have not only every page of my department but *every line* contain some thought that will benefit some one; and I feel sure no one will be helped by giving space to talk that was common in years past, but which, since the great strides of present Christianity, are now mostly dropped and forgotten. I replied to one brother (who sent me quite a long letter) on a postal card, and quoted our text above, and asked him if he was keeping track of the great work now being done by "Billy Sunday." For fear there are others of our readers who are also not keeping posted I have made some clippings from the *Sunday School Times* of Jan. 24.* Of course the brewers and distillers are fighting Sunday with money unstinted, and every thing else; and it seems they have been telling of the \$48,000 that the city of Scranton, Pa., expended in the Sunday crusade. A business man made an extensive summing-up of *expenses*, and also of *benefits*, and gives the whole in the *Times*, and then asks, "Did it pay?"

Below are a few of the points he makes. I know the figures are staggering; but *while I write* the work is being *more* than duplicated in the great city of Philadelphia.

Superintendent Hopper, of the Lackawanna County Sunday-school Association, reports the county membership increased from 35,000 to 47,000, and the most significant fact of the 12,000 gain in members is that *ninety per cent of them were men*—men who could qualify in organized adult Bible classes.

That Billy Sunday reached men is evidenced by another fact. At the last meeting in the tabernacle for men, Sunday, April 19, at 2 P. M., Mr. Rodeheaver requested that all men who had stopped "hitting the booze" since Mr. Sunday came to the city raise the right hand, and immediately hands "shot up"—men vied with each other in trying to raise their hands higher. How many were there? From where the writer sat, on the steps of the platform, it seemed as if almost every man in that audience of 10,000 men had his hand up. From competent judges it was estimated that no less than 5000, and probably 6000, had become total abstainers. Here was visible evidence, and our hearts still glow at its remembrance. A conservative estimate places the number of total abstainers in this valley as the result

of the Sunday campaign at not less than 10,000 men, saying nothing about the women.

Some people say that the Sunday campaign was a failure. Who say this? Brewers and saloon-keepers. Can we refute their statements? The report of the internal-revenue collector for this district is of value. He reports for the first six months of this calendar year 17,000 gallons less of whisky consumed than in the preceding six months; 25,000 barrels of beer less than for the same period last year, and a corresponding decrease in tobacco.

If the 10,000 booze-quitting men spent an average of \$2.00 per man each week for fifty weeks in the year for intoxicants (we have numerous personal testimonies of booze-bills that range from \$20 to \$150 per month), then for an investment of \$48,000 we have diverted \$1,000,000 per year from the hotel and saloons into honorable and legitimate business channels, and into the churches. You say these figures are too high. *They are not too high.* Well, cut the amount in two; was it worth \$48,000 to divert \$500,000 into legitimate business channels and into the churches?

The other day the writer asked an executive auditor of one of our largest corporations what effect the Sunday campaign had on their employees.

"Our employees have been transformed," he replied. "It was the greatest institute for efficiency that we have ever known. In efficiency the company has gained in one month several times the cost of the tabernacle, and in actual cash from loss of time, leave of absence (intoxication), sickness (dissipation), in any one month an amount equal to the entire cost of the tabernacle."

If you are reading the great city dailies you are probably aware that intemperance, crime, destitution, and suffering are increasing at an alarming rate. In the city of Cleveland, Ohio, they are calling for more policemen (because "hold-ups" are getting so common even in daylight, etc.), and the city replies there isn't any more money to pay for additional police. With wars and increasing intemperance what is the *whole wide world* going to do?

This is not only what they are *going* to do, but are doing. They are going to wake up, and listen to God's appointed prophets, and repent, and reform.

Now then! Will these friends (these *few* friends) who ridicule my faith in prayer, make sport of the Bible, call "deacons" and "preachers" hypocrites, etc.? Will these friends give us an account of what *infidelity* has done since the world began, in the way of reform? Are they not in about the same predicament as the friend I have mentioned (who was going to convince me by argument that there was no such thing as a queen in a beehive), when I opened a movable-comb hive and *showed* the queen depositing her eggs?

Our blessed Bible tells us of the time when the dear Savior spoke to the boastful winds and waves; and at his word, "Peace! be still," "there was a great calm."

* I hope every friend of temperance and righteousness, if he doesn't subscribe for the *Sunday School Times*, will at least send for the issues of Jan. 24 and 31, the latter being the temperance number.

Only those who have been out on the great ocean can fully realize what a stupendous miracle this was. No wonder the disciples "marveled" and said, "What manner of man is this, that even the *winds* and the *seas* obey him?"

Now listen to your old friend when he tries to assure you that the present wars, intemperance, and crime are all subject in like manner to *his* command, and that "there is no other name under heaven" that can quell this boisterous world than that of Christ Jesus, who spoke peace to the troubled seas ages ago. And this is the message that God's appointed "Gideon," Billy Sunday, is bringing, and yet the whole world *marvels* to see this one little man the means of bringing peace and joy into the homes of untold thousands, and of making a great city like Denver, Colorado, "vote dry" in spite of all the trained minions of Satan with their ill-gotten millions.

BILLY SUNDAY, THE ANTI-SALOON LEAGUE, ETC.

To give you a brief glimpse of the great work that is now going on to usher in God's kingdom, I make two clippings—one from the *Sunday School Times* and the other from the *Baltimore Sun*. I verily believe Sunday would end the war if he were given a chance, and if all good people would stand by him, as they seem to be doing now, wherever he goes.

To make a state or a nation dry requires votes. Votes cannot be secured until sentiment is ripe. It is by the creation of dry sentiment that the evangelist renders extraordinary service to his country.

In the recent struggle for prohibition in Ohio, more than five hundred thousand dry votes were secured. Mr. Sunday has conducted many extensive campaigns in that state. And it is perhaps the most thoroughly organized state in the Union from the Anti-saloon League standpoint. Wayne B. Wheeler, Superintendent of the League, recently said:

"Billy Sunday attacks the liquor business in the most aggressive, bold, and defiant manner of any man I have heard in years. Many people are aroused to action only when a speaker hits an evil hard, then jumps on it and literally pulverizes it with argument and invective and impassioned oratory. Billy Sunday makes the people feel that the liquor-traffic is the worst crime of our civilization. Some of them may cool off; but many stick, and they furnish good fighters in the ranks of any organization that is making an effective and aggressive fight against the saloon."

On November 3, 1914, Colorado voted dry by a majority of 11,000. Two years ago the same state voted wet by a majority of 40,000. Chief among the elements that entered into this campaign was doubtless the well-nigh perfect organization of the Anti-saloon League, reaching to every voting district in the state, together with the hearty co-operation of all other anti-liquor agencies.

Then came Billy Sunday, arriving in the state at the psychological moment. In June he conducted a campaign at Colorado Springs, in El Paso County, where the wet majority two years ago was 2700. The dry majority last year was 4000. For six weeks

previous to the election Sunday stirred up Denver. The dry vote there was increased from 11,000 two years ago to 29,000 last year.

"There are little frizzled-top sissies not yet sprouting long dresses who know more about vice than did their great-grandmothers when they were 75 years old.

"The girl who drinks will abandon her virtue. What did Methuselah know about smoking cigarettes?

"If any one ever tells you that you can't be virtuous and enjoy *good health*, I brand him as a low, infamous, black-hearted liar."

SUNDAY'S CONVERTS 1184.

At the morning service 157 publicly acknowledged their faith in Almighty God in answer to Sunday's summons for converts. At the afternoon service Sunday ripped off his collar and tore open his shirt, and with the perspiration dripping from his face and arms he lashed, hounded, quartered, and flayed the thousands of sinning men seated before him until he stood before them triumphantly extending God's blessing as they rushed up to the pulpit for forgiveness. There were 551 converts this afternoon and 476 to-night.

Morning, afternoon, and night services were practically continuous. Thousands were gathered before the tabernacle doors at daylight; thousands remained inside the immense auditorium for the afternoon service, and thousands remained after the afternoon service for the night service. None stayed away on account of the rain.—*Baltimore Sun*, Jan. 18.

PEACE ON EARTH, GOOD WILL TO MEN.

I have been not only praying for, but *expecting*, something like what is outlined below, which I clip from the *Christian Herald* of Jan. 20. May the Holy Spirit go with it.

CONGRESS TAKES UP WORLD-PEACE.

On Jan. 2 Hon. Charles F. Curry, of California, introduced in the House of Representatives the first measure ever placed before an American Congress in the interest of world-peace. It was in the form of a joint resolution which reads as follows:

"JOINT RESOLUTION

"Authorizing and empowering the President to invite all nations to send delegates to a convention to provide for disarmament, for the creation of an international legislature, an international court, an international army and navy police, and for other purposes.

"Resolved by the Senate and House of Representatives in the United States of America in Congress assembled, That the President be, and he is hereby authorized and empowered to invite all nations to send accredited delegates to an international convention to frame a constitution for submission to the nations for ratification, said constitution among other things to provide for an international legislature to enact laws for the government of the intercourse between nations; to provide for an international court to adjudicate the differences between nations; to provide for the disarmament of all nations; to provide for an international army and navy to be used as international police, and when so ordered to enforce the decrees of the international court; to provide that each nation shall be protected in its right to retain and maintain its own form of government, and to exercise exclusive authority over its internal affairs; and to provide further that each nation shall be permitted to maintain an army and navy only sufficiently large to police its own territory."

On January 5 the same resolution was introduced in the Senate by Hon. Robert L. Owen, of Oklahoma.

The resolution has been referred to the Committee on Foreign Affairs and ordered printed. It is the outcome of a widespread agitation of the peace movement and of memorials, circulated by the *Christian Herald*, which have been numerous signed and mailed to members of both Houses and the President within the last few weeks.

“THE MAILED FIST” OR “THE PIERCED HAND.”

Our long-time friend from away off in New South Wales, Herbert J. Rumsey, sends us a clipping from the *Sunday Sun* of Dec. 13. This edition of the *Sun* was to be mailed to the soldier “boys at the front,” and a Protestant minister prepared the sermon from which I make the following extract:

THE SYMBOL OF THE GOSPEL IS A PIERCED HAND.

The pierced hand is the symbol of the world empire of Jesus. During the last few months we have been made painfully conscious of another symbol of world empire—the mailed fist.

We are looking forward to the time when the peace of God which passeth all understanding will fall on this shot-shattered world, when the daisies will bloom on the battlefields that are now red, when the birds will build their nests in the cannon's mouth. There will come an abolition of militarism, new and better international relations, a purged national life, a splendid extension of the kingdom of righteousness and peace and joy. Do you believe it? Are you not fighting for it? To-morrow Bernhardi's law of might will pass, and the world will learn a new but an old word, “Blessed are the peacemakers.” A recent illustrated paper contained the picture of a ruined church smashed by the red anger of the Germans. Underneath were written the words, “The cross is not damaged.” There among the dust and ruin and horror of it all was the cross, erect, unbroken, and sublime, which things are a parable. We, like Constantine of old, see the cross outlined above the clouds, and reverently cry, “Hoc signo vincamus”—“By this sign we shall conquer.” So, above the smoke of battle rises mystically the sign of a cross. *Across Europe's bloodiest field there beckons a pierced hand, and as from afar, yet with a note of present confidence, there sounds a voice of triumph, “I, if I be lifted up, will draw all men unto me.”*

No one can read the gospels without reaching the conclusion that Jesus anticipated a ministry that should be wider than any Jewish limits. He who is reckoned by some to have been a peasant in an obscure province in a far-off age, who wrote no book, who built no church, who organized no army, who left no court, foresaw a ministry which was to be as wide as the world. As a peasant, Christ died when, as men reckon years, he had scarcely reached his prime.

Not a golden hair was gray
Upon his crucifixion day.

Concerning his death, he said, “I, if I be lifted up, will draw all men unto me.” The great sayings of Jesus have stood the test of all criticism, and they tell us that throughout his earthly ministry Christ had the outlook of approaching lordship over all the nations. The teaching of Jesus consistently pointed to the fact that his death and world empire are forever associated. His death was to be the secret of world empire. When the one grew vivid in his thought there rose the vision of the other. And that fact should be thought much of by every man and every woman who is interested in the world empire of Jesus Christ. So far as our present ex-

perience has gone, it must be granted that historic Christianity answers all the ends of true religion. It sweetens life; it creates saints; it inspires missionaries; it brings gifts of peace to dying hours; it lifts men by the energy of its grace to better living. It promotes righteousness, peace, and joy. It strengthens all the anchorages of morality. It brings light amid the shadows of life, and, in the darkest valley, the vision of the eternal God. Wherever the gospel has been preached, men have learned a new pity for human pain, a charity that cares for the helpless, a patience that watches over broken and failing life. The gospel supplies new moral ideals by which to shape life, new forces by which to touch life.

May God hasten the day when the whole wide world shall have so little use for cannon that they may prove a safe nesting-place for the innocent birds.

SAN FRANCISCO AND THE EXPOSITION, ETC.; FROM OUR LONG-TIME FRIEND W. A. PRYAL.

My dear Mr. Root:—One of your correspondents living in this state makes a very broad and unwarranted charge against San Francisco, p. 44, that I believe should not go unchallenged. I am a native of that city; and while I must acknowledge that many things are done there that are reprehensible, still it is not altogether the bad place that too many narrow-minded persons are too ready to dub it. Few cities as large, and made up of such a cosmopolitan population as she possesses, are more orderly, and as well-managed, as the City by the Golden Gate. It is a city of culture and refinement, even if there is a large sprinkling of elements that cannot lay claim to such designation. Of course, too often the worst element in a community raises a lot of dust that is disgusting to the better classes; but I find that the latter element is to blame, in the majority of cases, in not correcting such abuses. If they would take more civic pride, and vote as their best interests dictate, there would be a better order of things. I have noticed that in nearly all our big cities, even in this elegant city of Oakland, many people of refinement and culture refrain from going to the polls on election day as they should, and voting for suitable men for office, or supporting wise legislative measures when they come up on either initiative or referendum submissions.

Under the old order of things too often bosses who had their origin (and most times instructions) from some saloon saw that their cohorts were rounded up and voted to carry things for the bosses. In this way most of the office-holders were unworthy men, and many of the measures enacted were what they should not be. But the saloon is “getting on to itself,” and it is no longer the factor that it was. And this is a good thing for everybody. I have long held that it should be a criminal offense for a bar-keeper to use his place of business for political purposes. It is a well-known fact that some saloons are worth thousands and thousands of dollars to the owners as rendezvous for a gang of politicians. This should not be. Make it criminal for such goings on. And perhaps, too, it would be well to close such places for a certain period, say a week or more before a general election, and shorter for minor ones. All this applies to places where out-and-out prohibition cannot be brought about. In time I believe men will not want to be seen going into a whisky dispensary, even if they are not prohibited from so doing. I believe, from what I see wherever I go in California, there is far from being the intemperance there used to be. This is brought about by several causes. It must be said to the credit of some of the saloon men that they will not sell strong drink to men who are likely to over-indulge. But the great

majority of such liquor-dispensers are not prone to do this. They are too greedy for the dimes and nickels, and every thing goes with them.

I have long been against the saloon; but I cannot bring myself to forcing them out of business without giving them a chance to save the capital they have put into the business. It savors of the worst kind of robbery to do so. Some plan should be devised to recompense them. It would be perhaps cheaper for the state to do this. After a certain number of years all saloons *must* cease doing business, a reasonable sum to be paid for their fixtures or any leasehold a saloonkeeper may be obligated to hold to. By the giving of ample time, all stocks could be suitably disposed of, and the barkeepers have sufficient opportunity to seek other employment. In this way many of the saloons would virtually close out before the time set.

Here in this state the prohibition measure was lost by the stubbornness of those who initiated the movement. They did the cause much harm. It was not lost because the people are in *favor* of the saloon. It was too drastic, and many of our clergymen were not in favor of the proposition as it was submitted to the voters. It aimed to destroy the grape-growing industry in California—something that the people here take great pride in. I believe that, if the proposition had excluded the wine industry, the measure would have carried. I notice that henceforth the viticulturists of the state are not going to affiliate with the saloon interests. They will let the latter take care of themselves. So, I believe, when the question comes up again it will not cut horizontally. It will make reasonable distinctions between what is temperate and what is intemperate. This is well. There's reason in all things. Get at the sin of the thing—strike it—kill it.

What the temperance folk have to be thankful for (and this is where it can be proved that the voters of the state saw the justice of the proposition), was that, when they voted down a counter-proposition of the saloon people, to prevent any further meddling with the liquor question for *eight years* after any election when the question is voted on. If this had carried it would have been a great victory for the saloons. It was lost, as I firmly believed it should have been, and I so voted. The prohibition matter is now being agitated in our legislature, and it may be submitted to the people in some milder form, and finally be ratified in 1916. Let us trust it will be a rational measure.

Now, Mr. Root, what I was going to call your attention to is the last paragraph of the first column on page 44. Any one who would maliciously give the impression that "it is no uncommon thing to find dead bodies floating in San Francisco Bay" bears false witness against his neighbor, and commits as great a sin as if he were a confirmed rum-guzzler. I have lived in sight of the bay mentioned all my life (over fifty years), and I know it as a fact that such a statement is untrue. That dead bodies are found floating in the bay is *sometimes true*. Some of them were suicides; some fall from off the shipping in the bay; some were fishers along the rocks or cliffs who fell in accidentally, and once in a great while one may have been the victim of foul play. But such victims are found in waters the world over, and possibly elsewhere to a greater extent than about the big city of San Francisco. And it would be the height of uncharitableness to say that a saloon man was responsible for such loss of life.

Do not believe for a moment that San Francisco is a dangerous place to go about in. One is perhaps as safe in moving about the docks on the water-front during the day time in that city as he would be on the best street in any well-ordered city in the world. This I know as a fact, as I have been about the wharfs alone and with friends on numerous occasions.

Then it must be remembered that, if the prohibition measure was lost, there was carried a law which will make the tenderloin portion of the city better than ever before. It is the measure known as "the red-light law." Some of the worst elements of the city tried hard to defeat this measure; but it carried, nevertheless. So, also, has the "blue-sky law," which is a good thing too. This will prevent rogues from fattening on the unsuspecting possessor of ready cash.

It must be remembered that at the general election on the 3d of last November women exercised their voting privilege as it was probably never exercised in any part of the United States before, and I am glad to know that our women did better than I had hopes of their doing; for on several minor occasions previously I thought they might have done better on some local matters that they had a "try at." So, on the whole, the out-and-out temperance people should be satisfied with the result when such good judges of the subject helped defeat the measure.

Did you hear of one of the sad features about the last prohibition fight in this state. It may be said to be only an incident, but the opposition will make the most of it. Mrs. Bidwell, the widow of a gentleman who in his day was a strong worker in the cause of temperance, and who was, I believe, at one time candidate for President on the Prohibition ticket, hired a minister of one of the denominations (he was highly recommended, and was in a measure an able man) to canvass the state as far as he was capable in the cause of the prohibition measure. He was not long "on the stump" when his ways were not very edifying. I believe the League wanted to call him down, but it was powerless, as he was hired by private means. Any way, this savory minister had a family somewhere back east; but, aside from this, he had an "affinity" here—the wife of a worthy man in one of the northern counties. Well, this alleged laborer in the Lord's vineyard boldly went about through the country preaching against the liquor traffic while he was openly living an adulterous life. Fine example! Of course I would not hold the temperance people responsible for such doings; neither it is any reflection on the church for having such black sheep. And how often things go wrong with the church, and the wicked escape! When the great fire swept over San Francisco in 1906, every church in its wake was completely wiped out, and some of them were very fine edifices; and yet something like six saloons in the burnt district escaped unscathed! It was very strange. I saw some of these places a few days after the fire, and wondered how they were saved. The fire seemed to leave them alone. One of the biggest wholesale wine places was in one of the best blocks that was saved. It was not that the liquor men had influence in having them spared—they (the saloons) were avoided (?) by the Fire King. In a few places I was told wine was freely used to quench the blaze. I presume whisky would not do, as it would add to the fury of the fire.

But the saloon business, as I have said before, is not as bad here as it formerly was. Dozens and dozens of saloons have had to close up, as there was not sufficient patronage to support them. I don't think it is altogether on account of the hard times. It seems to be more because the drink habit is not as popular as formerly. Few men nowadays feel free to ask a friend to come on and take a drink with them. It was that social part of the matter that brought so many into the barrooms.

It is a matter of only a few years that the drink habit will die out. In the mean time, perhaps, with Christianlike prohibitive laws, the nefarious saloon will pass away. But drastic prohibitive measures which confiscate a man's life-long earnings I believe to be against God's laws. Lead the bar-keeper away from his bar. Let him see the evil he too often does.

I trust you will not do as your fair correspondent

would have you do—keep away from San Francisco and the big fair for the reason she sets forth. You will miss a big treat if you do. Come by all means during the year and see the fair. And if you come, be sure to visit me—better, be my guest during your visit. Mrs. Pryal and myself would be glad to have you and yours visit us. We have plenty of room in our fine new home, and we think we can make it pleasant for you. And it will give me pleasure to show you about, as we have a touring car and can get around in a very satisfactory manner. It was my pleasure, some sixteen years ago, to drive Mr.

and Mrs. Thos. Wm. Cowan about this city and suburbs to see the sights. Let it be mine, too, to show you about this beautiful country.

Oakland, Cal., Jan. 11.

W. A. PRYAL.

Many thanks, my good friend P., for the facts given us, and also for your very kind invitation; but Mrs. Root and I are getting rather old to take in expositions as we once did.

HEALTH NOTES

CANCER—CAN IT BE CURED BY DIETING, ETC.?

The following is from a friend whose wife died of malignant cancer, and who himself was beyond the reach of treatment ordinarily given by our best physicians. The letter, as you will notice, was written five years after he began dieting, daily bathing, exercising, etc. As you will see, there has been considerable criticism of T. B. Terry's claims, and I am glad to see him vindicated. And I am also glad of the valuable hints given, especially since they come from one who has been for long years a successful practicing physician.

"ALONE WITH GOD."

You may remember my writing to you shortly after your publication of a letter in your department of GLEANINGS from a "friend" whose name was withheld, who had treated successfully a lady afflicted with cancer of the breast without surgery or drugs. I asked his name and address. I was not surprised when you referred me to Mr. Terry. You also mentioned that you had been severely criticised for the publication of that letter. Now, Bro. Root, I am of the opinion that your critics should be criticised, for you did the right thing in allowing that letter a place in your magazine. I for one am extremely thankful to you for publishing it. Had it not been for that letter, I myself might have been numbered with those who have succumbed to cancer. I wrote to Mr. Terry, and he gave me his opinion, and some special advice. I was a tea and coffee drinker, a "tea drunkard," using about a pound of tea each month. Well, I went to doctoring myself with medicines, ointments, etc., and at the end of a year I was no better but much worse in every way. I had grown so desperate in my failure to find relief that I was ready for a surgical operation, but hesitated to use the knife. Then I made arrangements to go to a cancer specialist who used a killing plaster in taking them out. I still felt in doubt. I was "alone with God," and I had been much of the time since my companion was taken. I took the matter up with him most earnestly, and finally decided to get back to nature, and give her a chance. That was five years ago this month. I abandoned tea and coffee and all stimulants, pork, and all rich greasy foods, getting right down to the Terry diet as nearly as possible, only two meals a day. I had been eating three meals before, giving up medicines of all kinds, and, later on, sugar and salt in or on my food, using a little honey, and a little milk and cream. By the middle of July I had lost 30 lbs. of flesh, and was so weak I could with difficulty get about home with a cane.

I had taken up with the dieting a thorough course of hydropathic treatment, daily baths, internal and external, with hot fomentations for half an hour or longer over the cancerous places. This water treatment I kept up for a whole year, not missing a day.

By the middle of September I began to feel I was gaining. I was not so nervous, but more cheerful. My cancers were not so troublesome and sensitive. Well, to make a long story short I will say my cancers gradually were absorbed and disappeared, so there is at present no sign of them left—only a little sensitiveness sometimes over the places. My piles also disappeared by magic, and give no trouble. I am full of hope and life, like a boy, though perhaps more serious, for I am constantly "alone with God." So now, Bro. Root, don't blame yourself for having been so foolish, as some thought you were, for publishing Mr. Terry's letter.

I am "alone with God," Bro. Root, in other ways than material distance from many of my fellow beings. I'm separated from them in thought and habits of life. I cannot go over to them, to my old thoughts and habits of living, and they are slow in accepting my ideas or ways of doing. For instance, I called on a neighbor and found him sick in bed with a cold. He had been taking calomel and other "doctor's stuff." He asked me what I "took" when I got a cold. His idea was on medicines of some kind that would chase the "cold" out of the body, as you would chase the chickens or pigs out of your garden. I told him, "I take a fast, an injection, a good bath, go to bed, and let nature do the rest." That plan did not suit his ideas. I seldom go out to dine with a neighbor, for I cannot go back to my old dietary habits without danger of recurrence of some or all of my old ailments. If any thing is offered me to eat it is almost sure to contain salt in excess, and hogs' fat, both of which are bad for me. I'm urged to have a cup of coffee. "It don't hurt you." So I'm very much "alone with God" and his hand-maiden Nature.

Alone with God when I am weak;
Alone with God—his strength I seek;
Alone with God—for him I long—
Alone with God—he makes me strong.

Alone with God, I flee for rest;
Alone with God when evil pressed;
Alone with God I love to be;
Alone with God—he comforts me.

Alone with God, I struggle on;
Alone with God to gain my crown;
Alone with God—he takes my hand;
Alone with God to heavenly land.

Alone with God, no human near;
Alone with God, no one to fear;
Alone with God I love to be;
Alone with God—he comforts me.

Mentone, Ala.

DR. C. F. PARKER.

HABIT-FORMING DRUGS, ETC.

In the Jacksonville *Times-Union* for Oct. 13, 1914, a full-page illustration is given to the matter of habit-forming drugs. Below is a clipping from the article, together with the lengthy heading:

AMERICAN DRUG FIENDS OUTNUMBER CHINESE; ONE PERSON IN UNITED STATES OUT OF EVERY 23 USES SOME OPIATE, INVESTIGATORS FOR MRS. W. K. VANDERBILT, SR., DISCOVER.

The greatest drug-using people in the world are the American people, and not the Chinese. That is the discovery of experts working under the direction of Mrs. W. K. Vanderbilt, Sr., who, since January, has been working against the use of drugs in the United States.

To-day 4.1 per cent of the Chinese are drug-users in some form. In America, 4.45 per cent of the population use drugs.

Mrs. Vanderbilt began her fight on the nationwide use of drugs in the New York legislature, where she fought for a bill prohibiting the sale of cocaine, heroin, and morphine. She has given large sums of money to organizations opposing the drug habit in her efforts to obtain legislation against its sale.

The entire civilized world has been shouting about the horrors of the opium traffic of China. The Chinese were the originators of opium, it is believed. In China it was found 200 years ago that 6 per cent of the people were drug victims. By consistent fighting against the use of drugs; by laws limiting its manufacture and sale, the use of drugs there has dropped to 4.1 per cent of the population in 200 years.

In America, however, the use of the drug is on the increase.

Laws preventing the transportation of cocaine from one state to another are sought by Mrs. Vanderbilt; and in working for federal laws her experts have compiled data to show the enormity of the drug habit.

Drugs are used by all classes. The criminal class is addicted to its use. Cocaine is injected into the arm. Opium is smoked and taken in other ways. Sometimes the drugs are snuffed. They are taken to drive away the feeling of drowsiness sometimes. Country doctors acquire the drug habit because of their long hours of work. They take drugs to keep themselves awake, and take other drugs so they can go to sleep quickly.

Society women are known to take drugs to drive away weariness in pursuing their social conquests.

In America, drug-users quickly take to cocaine and heroin. The drug causes the user to turn criminal and to die. Five years is the average life of the cocaine fiend.

No other vice renders its victim so dangerous. Opium, morphine, and hashish send their victims searching for solitude; but a sniff of cocaine, after lifting its victim into a half hour's rosy overestimation, drops him into the streets and alleys in a state of dangerous melancholia. So brief is the drug's effect that it takes from \$4 to \$5 a day to satisfy a cocaine addict.

"Cocaine addiction is the easiest habit to acquire and the hardest to cure," says Dr. Podstata, a Chicago drug expert. "Nothing so quickly deteriorates its victim or provides so short a cut to the insane-asylum," says Dr. Towns. Because it takes such a quick, deadly grip on its victim, there are some physicians who refuse to administer any cocaine whatever, even for legitimate medical practice.

May the Lord be praised for one more woman of wealth who uses her wealth and influence to protect and reclaim, if possible,

the "dope fiend." With the world-wide stir now going on in regard to the matter, I think these dangerous agents will very soon be under strict surveillance. One reason for the statement above is that, while we are having a mighty reform over in China, America has to a considerable extent been getting worse and worse. May God help us.

But what argument in favor of the American saloon, so far as "personal liberty" is concerned, will not apply to the "personal liberty" of the unfortunate wretches described above?

URINARY TROUBLES, GALLSTONES, ETC.

When I ventured to give an opinion in regard to this matter on page 832 of our Oct. 15th issue I knew I was getting off from my beat; and you may recall that I said I should be glad to have some regular physician straighten us out. A good doctor from away off in northern Michigan has very kindly answered this invitation, and gives us the following:

Mr. A. I. Root:—In your Health Notes in GLEANINGS for Oct. 15 you discuss urinary troubles and gallstones; and the conclusion to be drawn from your article is that the sediment of retained urine causes gallstones. Kindly allow me to correct you as well as your correspondent. Gallstones form in the gall-bladder—a small sac that hangs just under the liver, and which is really a reservoir for surplus bile which is formed in the liver. This gall-bladder has a duct which empties this bile or "gall" into the duodenum, and it is down this duct that gallstones pass and cause all their trouble. This duodenum is the first division of the small intestine, and so you see the gallstones can have no relation whatever to the kidneys, urethra, or bladder. Now I will tell you and your correspondent just what the trouble is, and why it is best to empty the bladder at night if the inclination comes.

Urine, when fresh, is acid in reaction, and in this acid condition it will not decay; but on standing it will soon become alkaline, and then will decompose. In older people it often becomes alkaline before leaving the bladder, due to the inability to expel all of the urine.* This retained urine is called "residue urine," and this will soon decompose, causing an irritation of the bladder, and the bladder must be emptied to obtain relief. Now, don't you suppose that your experience of eating acid fruits has had a tendency to keep the urine acid longer, and thus allow it to be retained? A good many cases of so-called "gravel" in the bladder are simply cases of retained residue, alkaline and decomposed.

Hart, Mich., Oct. 19. L. P. MUNGER, M. D.

* If the readers of GLEANINGS will excuse me (especially the younger ones) I wish to repeat something that our good friend Terry said some time ago. It is rather plain talk for a home journal, I admit; but in view of the importance, especially to elderly people, I think best to give it. The part I recall is something like this. In speaking of the troubles we have been discussing, our good friend remarked that those afflicted in this way should take plenty of time to get rid of "the very last drop" of urine remaining in the bladder. This would tend to prevent what the good doctor in the above calls "residue urine."